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THE HARVARD SCHOOL OF PUBLIC HEALTH



COURSES OF INSTRUCTION
FOR THE YEAR 1949-50

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THE HARVARD SCHOOL OF PUBLIC HEALTH

COURSES OF INSTRUCTION
1949-50



55 Shattuck Street
Boston, Massachusetts

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1949

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CALENDAR FOR THE ACADEMIC YEAR 1949-50

September 19, Monday to

September 23, Friday

Registration of students

FALL TERM September 26, 1949 to February 4, 1950

September 26, Monday

First period begins

October 12, Wednesday

Columbus Day: a holiday

November 11, Friday

Armistice Day: a holiday

November 19, Saturday

First period ends

November 21, Monday

Second period begins

November 24, Thursday

Thanksgiving Day: a holiday

RECESS FROM DECEMBER 22, 1949 TO JANUARY 4, 1950, INCLUSIVE

January 28, Saturday

Second period classes end

January 30, Monday to

February 4, Saturday

Field work

SPRING TERM February 6, 1950 to June 22, 1950

February 6, Monday

Third period begins

February 22, Wednesday

Washington's Birthday: a holiday

April 1, Saturday

Third period ends

RECESS FROM APRIL 2 TO APRIL 9, 1950, INCLUSIVE

April 10, Monday

Fourth period begins

April 19, Wednesday

Patriot's Day: a holiday

May 30, Tuesday

Memorial Day: a holiday

June 3, Saturday

Fourth period classes end

June 22, Thursday

Commencement

ADMINISTRATIVE OFFICERS

President: JAMES BRYANT CONANT, A.B., PH.D., LL.D., S.D., L.H.D.,
D.C.L., D.Sc.

Office, 1 Massachusetts Hall, Cambridge.

Dean: JAMES STEVENS SIMMONS, S.B., M.D., PH.D., DR.P.H.,
S.D. (hon.).

Office, School of Public Health, 55 Shattuck Street, Boston.

Assistant Dean: HUGO MUENCH, A.B., M.D., DR.P.H., A.M. (hon.).

Office, School of Public Health, 55 Shattuck Street, Boston.

Secretary of the School: MARGARET GUSS BARNABY, A.B.

Office, School of Public Health, 55 Shattuck Street, Boston.

Physician to Students: MYLES PIERCE BAKER, M.D.

Office, Room 103, Building A, Harvard Medical School,
25 Shattuck Street, Boston.

Bursar: ROY VINCELLE PERRY.

Office, Lehman Hall, Cambridge.

FACULTY OF PUBLIC HEALTH *

Emeritus Professors

ALICE HAMILTON, M.D., A.M., S.D., *Assistant Professor of Industrial Medicine, Emeritus.*

FREDERICK FULLER RUSSELL, M.D., S.D. (hon.), *Professor of Preventive Medicine and Epidemiology, Emeritus.*

ERNEST EDWARD TYZZER, Ph.B., A.M., M.D., S.D. (hon.), *George Fabyan Professor of Comparative Pathology, Emeritus and Professor of Tropical Medicine, Emeritus.*

EDWIN BIDWELL WILSON, A.B., Ph.D., *Professor of Vital Statistics, Emeritus.*

RICHARD MASON SMITH, A.B., M.D., S.D. (hon.), *Thomas Morgan Rotch Professor of Pediatrics, Emeritus.*

GEORGE CHEEVER SHATTUCK, A.B., M.D., A.M. (hon.), *Clinical Professor of Tropical Medicine, Emeritus.*

MELVILLE CONLEY WHIPPLE, A.M. (hon.), *Associate Professor of Sanitary Chemistry, Emeritus.*

Professors

JAMES STEVENS SIMMONS, S.B., M.D., Ph.D., Dr.P.H., S.D. (hon.), *Dean and Professor of Public Health.*

HUGO MUENCH, A.B., M.D., Dr.P.H., A.M. (hon.), *Assistant Dean and Professor of Biostatistics.*

PHILIP DRINKER, S.B., Chem.E., S.D. (hon.), LL.D., A.M. (hon.), *Professor of Industrial Hygiene.*

GORDON MASKEW FAIR, S.B., S.M., *Abbot and James Lawrence Professor of Engineering and Gordon McKay Professor of Sanitary Engineering.*

JOHN EVERETT GORDON, S.B., Ph.D., M.D., A.M. (hon.), *Professor of Preventive Medicine and Epidemiology.*

* Arranged, with the exception of the Deans, in order of appointment to present rank.

HAROLD COE STUART, Litt.B., M.D., A.M. (hon.), *Professor of Maternal and Child Health.*

HUGH RODMAN LEAVELL, S.B., M.D., Dr.P.H., *Professor of Public Health Practice.*

JOHN CRAYTON SNYDER, A.B., M.D., *Professor of Public Health Bacteriology.*

FREDRICK JOHN STARE, S.M., Ph.D., M.D., A.M. (hon.), *Professor of Nutrition.*

CONSTANTIN PRODROMOS YAGLOU, B.A., S.B., M.M.E., *Professor of Industrial Hygiene.*

DONALD LESLIE AUGUSTINE, S.B., Sc.D., Sc.D., (hon.), A.M. (hon.), *Professor of Tropical Public Health.*

Associate Professors

EDWARD WARREN MOORE, A.B., A.M., *Associate Professor of Sanitary Chemistry.*

FRANZ GOLDMANN, M.D., *Associate Professor of Medical Care.*

DAVID MARK HEGSTED, S.B., S.M., Ph.D., *Associate Professor of Nutrition.*

LESLIE SILVERMAN, S.B., S.M., S.D., *Associate Professor of Industrial Hygiene.*

LEONID SERGIUS SNEGIREFF, M.D., M.P.H., Dr.P.H., *Associate Professor of Cancer Control.*

SHIH LU CHANG, M.D., Dr.P.H., *Associate Professor of Sanitary Biology.*

ROSS ARMSTRONG MCFARLAND, A.B., Ph.D., S.D. (hon.), *Associate Professor of Industrial Hygiene.*

JAMES LAVERRE WHITTENBERGER, S.B., M.D., *Associate Professor of Physiology.*

WILLIAM MORRIS SCHMIDT, M.D., *Associate Professor of Maternal and Child Health Practice.*

Clinical Professors

CONRAD WESSELHOEFT, M.D., *Clinical Professor of Infectious Diseases.*

CHARLES WALTER CLARKE, A.B., A.M., M.B., Ch.B., *Clinical Professor of Public Health Practice.*

VLADO ANDREW GETTING, A.B., M.D., Dr.P.H., *Clinical Professor of Public Health Practice.*

Lecturers (Three year appointments)

ERICH LINDEMANN, Ph.D., M.D., *Lecturer on Mental Health.*

FREDERICK LEOPOLD WILLIAM RICHARDSON, JR., S.B., Ph.D., *Lecturer on Mental Health.*

Assistant Professors

CARL RUPP DOERING, A.B., M.D., S.D., *Assistant Professor of Biostatistics.*

BERTHA SHAPLEY BURKE, A.B., A.M., *Assistant Professor of Maternal and Child Nutrition.*

SAMUEL BROWN KIRKWOOD, A.B., M.D., *Assistant Professor of Maternal Health.*

EDWARD STEVENSON MURRAY, A.B., M.D., M.P.H., *Assistant Professor of Public Health Bacteriology.*

JANE WORCESTER, A.B., Dr.P.H., *Assistant Professor of Biostatistics.*

ALBERT OTTO SEELER, A.B., M.D., *Assistant Professor of Industrial Medicine.*

THEODORE HUNT INGALLS, A.B., M.D., *Assistant Professor of Epidemiology.*

ELIZABETH PRINCE RICE, A.B., S.M., *Assistant Professor of Medical Social Work.*

ABRAHAM DANIEL RUBENSTEIN, A.B., M.D., M.P.H., *Assistant Professor of Epidemiology.*

STANLEY JAY SARNOFF, A.B., M.D., *Assistant Professor of Physiology.*

ALFRED LEO FRECHETTE, M.D., M.P.H., *Assistant Professor of Public Health Practice.*

CHARLES REGAN WILLIAMS, A.B., A.M., Ph.D., *Assistant Professor of Industrial Hygiene.*

QUENTIN MONROE GEIMAN, S.B., S.M., Ph.D., *Assistant Professor of Tropical Public Health.*

ROBERT PERSHING GEYER, S.B., S.M., Ph.D., *Assistant Professor of Nutrition.*

JOHANNES IPSEN, C.A., C.M., M.D., M.P.H., *Assistant Professor of Epidemiology.*

GEORGE VERNON MANN, A.B., Sc.D., M.D., *Assistant Professor of Nutrition.*

ROBERT VALENTINE REED, A.B., A.M., Ph.D., *Assistant Professor of Biostatistics.*

THOMAS HUCKLE WELLER, A.B., S.M., M.D., *Assistant Professor of Tropical Public Health.*

Associates

HELEN LUCILE ROBERTS, A.B., M.D., M.P.H., *Associate in Public Health Practice.*

FRANCES MARY FRAZIER, S.B., M.P.H., *Associate in Public Health Nursing.*

ELIZABETH ANN LOCKWOOD, S.B., A.M., M.P.H., Dr.P.H., *Associate in Nutrition.*

BERYL JOSEPHINE ROBERTS, S.B. in Ed., M.Ed., M.P.H., *Associate in Health Education.*

TEACHING STAFF

Lecturers (Annual appointments)

THEODORE ROSENTHAL, S.B., M.D., *Lecturer on Public Health Practice.*

WILLIAM HATHAWAY FORBES, A.B., A.M., Dr.Phil., *Lecturer on Industrial Hygiene.*

ROBERT BRENDAN O'CONNOR, A.B., M.D., *Lecturer on Industrial Medicine.*

Visiting Lecturers

LEONA BAUMGARTNER, A.B., A.M., Ph.D., M.D., *Visiting Lecturer on Maternal and Child Health.*

ROLLA EUGENE DYER, A.B., M.D., LL.D., *Visiting Lecturer on Public Health Bacteriology.*

PAUL FARR RUSSELL, A.B., M.D., M.P.H., *Visiting Lecturer on Tropical Public Health.*

SIR GORDON COVELL, M.B., B.S., M.D., D.P.H., *Visiting Lecturer on Tropical Public Health.*

EDWARD IRVING SALISBURY, M.D., *Visiting Lecturer on Tropical Public Health.*

FRED LOWE SOPER, A.B., S.M., M.D., Dr.P.H., *Visiting Lecturer on Tropical Public Health.*

JUSTIN MEREDITH ANDREWS, Ph.B., Sc.D., *Visiting Lecturer on Tropical Public Health.*

HERALD REA COX, A.B., Sc.D., Sc.D. (hon.), *Visiting Lecturer on Public Health Bacteriology.*

GEOFFREY EDSALL, M.D., *Visiting Lecturer on Public Health Bacteriology.*

Instructors

ROY F. FEEMSTER, A.B., M.D., Dr.P.H., *Instructor in Public Health Practice.*

ERNEST MARIETT MORRIS, A.B., M.D., C.M., M.P.H., *Instructor in Public Health Practice.*

HERBERT LUTHER LOMBARD, A.B., M.D., M.P.H., *Instructor in Public Health Practice.*

EMMA SANBORN TOUSANT, LL.B., *Instructor in Industrial Hygiene.*

- NORBERT ANTON WILHELM, S.B., M.D., *Instructor in Public Health Practice.*
- ALTON STACKPOLE POPE, A.B., M.D., M.P.H., Dr.P.H., *Instructor in Public Health Practice.*
- JAMES ADDISON McCOMB, D.V.M., *Instructor in Public Health Bacteriology.*
- ESTHER HARDENBERGH, A.B., A.M., *Instructor in Physiology.*
- JOHN MACINTOSH NEWELL, A.B., Sc.D., *Instructor in Public Health Bacteriology.*
- ROBERT EDMUND ARCHIBALD, M.D., M.P.H., *Instructor in Public Health Practice.*
- ARTHUR EDWARD BURKE, S.B., M.D., M.P.H., *Instructor in Public Health Practice.*
- LOREN DONOVAN MOORE, M.D., *Instructor in Public Health Practice.*
- JOHN JAMES POUTAS, A.B., M.D., *Instructor in Epidemiology.*
- HARRIET LOUISE HARDY, A.B., M.D., *Instructor in Industrial Hygiene.*
- HELEN BAUGHMAN, S.B., S.M., *Instructor in Nutrition.*
- STANTON GARFIELD, A.B., M.D., M.P.H., *Instructor in Child Health.*
- SIDNEY COBB, S.B., M.D., *Instructor in Public Health Practice.*
- HENRY HODGE BREWSTER, A.B., M.D., *Instructor in Mental Health.*
- LEMOYNE WHITE, A.B., M.D., *Instructor in Mental Health.*
- LUCY GORDON WHITE, A.B., A.M., *Instructor in Public Health Nursing.*
- FRANKLYN BOOTHROYD AMOS, M.D., M.P.H., *Instructor in Public Health Practice.*
- ALBERT AURELIUS HORNOR, A.B., M.D., *Instructor in Tropical Public Health.*
- DEAN ROBERTS, A.B., M.D., M.P.H., *Instructor in Medical Care.*
- JEAN FRANCES WEBB, B.Sc., M.D., C.M., D.P.H., *Instructor in Maternal and Child Health.*

Research Associates

JAMES WILLIAM GODDARD, M.D., *Research Associate in Pathology.*

GEORGE SUTER REICHENBACH, JR., B. Appl. Chem., S.M., *Research Associate in Industrial Hygiene.*

HENRY SHEPARD FULLER, S.B., M.D., D.T.M. and H., *Research Associate in Medical Entomology.*

RUTH ALIDA THOMAS, A.B., A.M., M.P.H., *Research Associate in Tropical Public Health.*

Assistants

ROBERT MATHEW THOMSON, *Assistant in Industrial Hygiene.*

HENRY CHASE MARBLE, A.B., M.D., *Assistant in Industrial Hygiene.*

RUTH MARIE GAESSLER, S.B., *Assistant in Maternal and Child Health.*

RUTH CUTTER, S.B., S.M., *Assistant in Maternal and Child Health.*

MAUDE NOËL LOMBARD, S.B., *Assistant in Sanitary Biology.*

Research Fellows

KATHLEEN SCOBIE, S.B., S.M., *Research Fellow in Maternal and Child Health.*

HUGH LYON CLEMENTS WILKERSON, S.B., M.D., M.P.H., *Research Fellow in Epidemiology.*

JAMES VINCENT MALONEY, JR., M.D., *Research Fellow in Physiology.*

BENJAMIN GREELEY FERRIS, JR., A.B., M.D., *Research Fellow in Physiology.*

RAYMOND FAGAN, A.B., D.V.M., M.P.H., *Research Fellow in Public Health Practice.*

DAVID FRIEND ABERLE, A.B., Ph.D., *Research Fellow in Mental Health.*

MARY LOUISE GLADISH, S.B., M.S.P.H., A.M., *Research Fellow in Nutrition.*

SUZANNE TAETS VAN AMERONGEN, M.A., M.D., *Research Fellow in Mental Health.*

WARREN TAYLOR VAUGHAN, JR., S.B., M.D., *Research Fellow in Mental Health.*

MYRON SANFORD FEINSTEIN, M.D., *Research Fellow in Maternal and Child Health.*

TOM FRENCH WHAYNE, A.B., M.D., M.P.H., *Research Fellow in Epidemiology.*

FRIXOS COSTAS CHARALAMPOUS, M.D., Sc.D. in Hyg., *Research Fellow in Nutrition.*

FARRINGTON DANIELS, JR., A.B., A.M., M.D., *Research Fellow in Nutrition.*

ADMINISTRATIVE BOARD

JAMES B. CONANT, President (*ex officio*)

JAMES S. SIMMONS, Dean

JOHN E. GORDON

HUGO MUENCH, Assistant Dean

HUGH R. LEAVELL

DONALD L. AUGUSTINE

JOHN C. SNYDER

PHILIP DRINKER

FREDRICK J. STARE

GORDON M. FAIR

HAROLD C. STUART

JAMES L. WHITTENBERGER, *Secretary*

COMMITTEES OF THE FACULTY

Committee on Admissions

HUGO MUENCH, Chairman; ELIZABETH P. RICE, LESLIE SILVERMAN,
JOHN C. SNYDER, JAMES L. WHITTENBERGER.

Committee on Degrees and Examinations

HUGH R. LEAVELL, Chairman; DONALD L. AUGUSTINE, ROBERT B.
REED, EDWARD S. MURRAY, FREDRICK J. STARE, HAROLD C. STUART.

Committee on Curriculum

JOHN E. GORDON, Chairman; PHILIP DRINKER, DAVID M. HEGSTED,
HELEN L. ROBERTS, THOMAS H. WELLER, JANE WORCESTER.

Committee on Development

ROSS A. MCFARLAND, Chairman; FRANZ GOLDMANN, DAVID M. HEG-
STED, THEODORE H. INGALLS, EDWARD W. MOORE, EDWARD S. MURRAY,
ROBERT B. REED, ELIZABETH P. RICE, STANLEY J. SARNOFF, ALBERT O.
SEELER, THOMAS H. WELLER.

THE COMMITTEE APPOINTED BY THE BOARD OF
OVERSEERS TO VISIT THE SCHOOL OF
PUBLIC HEALTH

1949-50

EDWARD B. KRUMBHAAR, *Chairman*

S. BRUCE BLACK, *Vice-Chairman*

ISAIAH BOWMAN	MARY W. LASKER
W. BARRY WOOD, JR.	JOHN P. MARQUAND
ROBERT AMORY	FREDERICK M. MAYER
CHARLES H. BABCOCK	EMORY W. MORRIS
WILLIAM BELL	BASIL O'CONNOR
THOMAS D. CABOT	JAMES H. RAND, JR.
MARTHA M. ELIOT	LEONARD A. SCHEELE
T. DUCKETT JONES	ANDREW J. WARREN
FRANK B. KEEFE	CHARLES F. WILINSKY
HUNTINGTON WILLIAMS	

Additional members to be announced later.

HISTORICAL STATEMENT

THE HARVARD SCHOOL OF PUBLIC HEALTH, an entirely new type of institution devoted to postgraduate education in public health, first gave instruction to students in the academic year 1922-23. Activity in professional education in this field had been steadily increasing in Harvard University over a period of more than two decades before the actual founding of the School. This resulted from the influence of Dr. Henry P. Walcott, for many years senior Fellow of the Harvard Corporation, himself an internationally known pioneer in the field of public health.

This was a gradual development, characterized by certain important steps, the first of which was the establishment in 1909 of the Department of Preventive Medicine and Hygiene in the Medical School, — the first such department in the United States. The degree of Doctor of Public Health was first conferred in 1911. In this same year a Department of Sanitary Engineering was inaugurated in the Graduate School of Engineering. In 1913 the Department of Tropical Medicine, and in 1918 the Division of Industrial Hygiene, with clinical and laboratory facilities, were organized in the Harvard Medical School.

In 1913 the "Harvard-Technology" School of Public Health was organized, under the joint management of Harvard University and the Massachusetts Institute of Technology. This School operated until the fall of 1922, when it was superseded by the Harvard School of Public Health which was made possible by a generous endowment for this purpose from The Rockefeller Foundation. This endowment is most appropriately known as the Henry P. Walcott Fund of Harvard University.

Besides the Walcott Fund, The Rockefeller Foundation at this time also presented the School with sufficient funds to purchase and equip a building standing on land adjacent to that occupied by the Medical School, the Children's Hospital, and the Peter Bent Brigham Hospital in which to house the administrative offices and certain of the

departments. It was impossible to provide space in the new School of Public Health building for such departments as Bacteriology, Preventive Medicine and Epidemiology, Comparative Pathology and Tropical Medicine, and the Library, all of which had existed in the Medical School for some years. For this reason, as well as to avoid duplication in facilities, these departments were organized as joint departments, supported financially by both the School of Public Health and the Medical School. There was a similar joint arrangement between the Graduate School of Engineering and the School of Public Health in respect to Sanitary Engineering. The departments which were entirely supported by the School of Public Health: Vital Statistics, Maternal and Child Health, Public Health Administration, Physiology, and Industrial Hygiene, were either housed in the School of Public Health building or in quarters rented by the School.

In 1946, The Rockefeller Foundation made an additional grant to the School of Public Health of funds to be expended during the succeeding ten years. To provide additional space for the School, the Collis P. Huntington Memorial Hospital building, located at Huntington Avenue and Shattuck Street, was made available. On July 1, 1946, the School of Public Health was separated administratively and financially from the Medical School and became independent in respect to budgets and faculty appointments. The School continues to cooperate closely with the Medical School in teaching and research as it does with the School of Engineering and other Schools of the University.

GENERAL STATEMENT

PROGRAMS OF STUDY

The teaching program of the School of Public Health is organized to provide intensive postgraduate instruction for physicians and certain other qualified individuals which will fit them for effective

careers in the profession of public health. Its main objective is to train the skilled leaders needed to plan, organize, direct, and operate complete public health programs (a) for governmental units — local, state, and national; (b) for industry, large and small, to serve both labor and management; and (c) for international health agencies, with special emphasis on the needs of the disease-ridden tropical regions of the world.

It is also concerned with the training of the various specialists required for such programs, including: epidemiologists, microbiologists, biostatisticians, nutritionists, industrial hygienists, environmental physiologists, and special administrators of such important activities as programs of industrial health, maternal and child health, mental health, the control of cancer, venereal disease, tuberculosis, and tropical diseases. Another important function is the training of teachers for other schools of public health and for departments of preventive medicine in medical schools.

The basic course which provides for the training of such people requires one academic year of study and leads to the degree of Master of Public Health. Specially selected individuals in some one of the various fields of public health work may be accepted as candidates for the degree of Doctor of Public Health.

Provision is also made for the postgraduate training of a limited number of nonmedical health specialists who may be accepted as candidates for the degrees of either Master or Doctor of Science in Hygiene.

A third category includes a small number of special students who may be accepted for short-term training, but who are not candidates for degrees.

Programs of study are adapted to the needs of individual students. Special students, who are not candidates for degrees, who seek to prepare for work in a particular field, may concentrate in the broad field of problems in which their major interest lies. Students may also supplement and round out their previous graduate training through registering for courses offered in the other schools and departments of instruction in the University.

FACILITIES

The School of Public Health is located mainly in two buildings, one at 55 Shattuck Street, Boston, which houses the administrative offices and five departments, the other at 695 Huntington Avenue, Boston, where three departments are located. Both of these buildings are in close proximity to the Medical School, the School of Dental Medicine, the Peter Bent Brigham Hospital, the Children's Hospital, and the Lying-in Hospital. The Biologic Laboratories of the Massachusetts Department of Public Health are within a comparatively short distance. There is a cooperative arrangement with the Medical School so that all the facilities of either School and of the hospitals are fully available to the students of both schools. In Cambridge the graduate departments of the University offer opportunities for work in certain fields of special interest to public health students. For example, students may elect courses in sociology, business administration, the theory of government, common law, sanitary engineering, and other subjects.

Several types of well organized public health activities lie within a short distance of the School. Close affiliation is maintained between the School and the Massachusetts Department of Public Health, thus assuring students an opportunity not only to observe but actually to participate under competent direction in state health department activities. The Health Departments of the City of Newton and of the Town of Brookline, whose Directors of Health are on the teaching staff of the School, have been developed as special training grounds for students of local public health administration in all its phases.

The facilities of the hospitals and clinics of the Massachusetts Department of Public Health and of other official agencies, as well as those of the various semiofficial agencies, are available for field training in child health, tuberculosis control, treatment of contagious diseases of childhood, care of mental defectives, rehabilitation of crippled children, correction of dental defects, and other types of activity which relate directly to the promotion of health and social welfare. Opportunity is also offered for training in organization and admin-

istration of medical-care programs and in hospital organization and community relationships. Since Boston is the center of a great industrial metropolitan area, students have opportunity to observe firsthand all the public health problems that large industrial populations must face.

Libraries

The joint Library of the School of Public Health and the Harvard Medical School is on the second floor of the Administration Building of the Medical School. It is open from 9 a.m. until 10 p.m. on week days, from 9 a.m. until 5 p.m. on Saturdays, and from 2 p.m. until 6 p.m. on Sundays. There are at present 92,000 volumes, 202,000 pamphlets, and 694 current periodicals on file in this library.

Students also have the privilege of using the College Library in Cambridge, as well as the various departmental libraries belonging to the University, in all of which there are 3,945,318 volumes and pamphlets.

The Boston Public Library is open to students who are residents of Boston, and to students not residents of Boston who have filed a bond at the Bursar's office.

The Boston Medical Library, No. 8 The Fenway, contains about 200,000 bound volumes, 140,000 pamphlets, and 723 current periodicals on file. For those who desire to consult medical literature, this very valuable library is open on week days from 9 a.m. to 5 p.m., Saturdays 9 a.m. to 1 p.m., and on Mondays and Thursdays until 9 p.m., from the middle of October to the end of May.

REQUIREMENTS FOR ADMISSION AND FOR DEGREES

Men or women who apply for admission to the School must satisfy the Committee on Admissions of their academic fitness. The record of courses completed as described in the application for admission is not in itself sufficient evidence of the fitness of a prospective candidate. The Committee may require additional evidence of present ability to utilize the training provided and to profit by the courses administered by the School. The right is reserved to reject any appli-

cant, or to accept an applicant as a special student rather than as a candidate for a degree until he demonstrates his ability to perform satisfactorily the work of the School.

All inquiries and communications regarding admission should be addressed to the Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts.

MASTER OF PUBLIC HEALTH

Requirements for Admission

The course leading to the degree of Master of Public Health is designed primarily for graduates in medicine, but it is also appropriate for doctors of dental or veterinary medicine and for public health workers with broad academic background in the basic medical sciences and a period of administrative experience in the field. Each applicant must convince the Committee on Admissions that he is prepared to complete the course with distinction.

Applicants for this degree must belong to one of the following categories:

1. Graduates of acceptable schools of medicine, veterinary medicine, or dentistry.
2. Graduates in arts or sciences with adequate training in the basic medical sciences, who have completed one academic year of acceptable graduate work in a public health field and who have had a period of acceptable full-time experience in a responsible position in public health practice.

Requirements for the Degree

1. One academic year, consisting of two sixteen-week terms, must be spent in residence at the University.
2. The student must complete 40 credit units satisfactorily. All candidates for the degree must take the general courses on the Public Health Aspects of Human Ecology and Community Organization for Health Service, as well as the first courses in Biostatistics, Epidemiology, Public Health Practice, and Sanitary Engineering, unless they can demonstrate equivalent acceptable preparation.

Approximately one third of the year's work must be in a field of special interest, which will be selected by the end of the first period. The student's program must be approved by the department of special interest and by the Committee on Degrees and Examinations.

The courses of the curriculum are listed below, with the credit unit value for each course. These values indicate the approximate proportion of the student's total program the course is intended to occupy.

3. At the end of the academic year a comprehensive examination may be given. It is designed to test the student's knowledge and judgment, and his ability to coordinate the basic public health subjects of administration, epidemiology, sanitation, and statistics, and also the various specialties in the field of public health.

<i>Fall Term</i>		
<i>Course</i>	<i>Title</i>	<i>Credit Units</i>
Public Health 1a *	Public Health Aspects of Human Ecology	2
Biostatistics 1a, b *	Principles of Biostatistics	4
Epidemiology 1b *	Principles of Epidemiology	2
Epidemiology 7b	Special Problems in Infectious Diseases	.5
Epidemiology 15a, b	Advanced Epidemiology	1-3
Industrial Hygiene 2a, b	Industrial Air Analysis	3
Industrial Hygiene 3a, b	Industrial Medical Clinics †	
Industrial Hygiene 4b	Industrial Organization	1
Maternal and Child Health 1a, b	Basic Problems	4
Maternal and Child Health 2b	Problems and Services	2
Nutrition 1a	Basic Nutrition	1.5
Nutrition 2b	Public Health Nutrition	1.5
Nutrition 4a, 4b	Journal Club	.5
Physiology 1a, b	Human Physiology and Its Application to Public Health	2
Public Health Bacteriology 1a, b	Principles of Bacteriology and Immunology	2
Public Health Bacteriology 11b	Public Health Laboratory Procedures	2

* Required of all degree candidates

† Time and credit to be arranged

Fall Term (continued)

<i>Course</i>	<i>Title</i>	<i>Credit Units</i>
Public Health Bacteriology 12a, b	Advanced Laboratory Work in Applied Immunology †	
Public Health Practice 1a *	Community Organization for Health Service	2
Public Health Practice 2b **	Principles of Public Health Practice	2
Public Health Practice 4b	Organization of Medical Care	2
Public Health Practice 6a, b	Control of Cancer	2
Public Health Practice 8b	Psychosocial Problems	1
Public Health Practice 10b	Public Health History	.5
Public Health Practice 11a	Control of Tuberculosis	2
Sanitary Engineering 1a **	Principles of Sanitation	2
Sanitary Engineering 2a, b	Sanitary Bacteriology	4
Tropical Public Health 1b	Parasitology	1.5

Spring Term

<i>Course</i>	<i>Title</i>	<i>Credit Units</i>
Biostatistics 2c, d	Statistical Analysis	4
Biostatistics 3c and Public Health Practice 17c	Morbidity and Medical-Care Statistics	1
Biostatistics 4d and Maternal and Child Health 7d	Statistical Evaluation of Problems in Maternal and Child Health	2
Biostatistics 5d	Advanced Statistical Methods	1
Biostatistics 6c, d	Seminar in Biostatistics	2
Epidemiology 5c	The Practice of Epidemiology	4
Epidemiology 6c	Clinical Aspects of Infectious Diseases	1.5
Epidemiology 7c, 7d	Special Problems in Infectious Diseases	.5
Epidemiology 9d	Military Preventive Medicine	1
Epidemiology 15c, d	Advanced Epidemiology	1-3
Industrial Hygiene 1c	Basic Problems in Industrial Hygiene	3
Industrial Hygiene 2c, d	Industrial Air Analysis	3
Industrial Hygiene 3c, d	Industrial Medical Clinics †	
Industrial Hygiene 5c	Human Problems of Adjustment in Industry	1

* Required of all degree candidates

** Required of all M.P.H. candidates

† Time and credit to be arranged

Spring Term (continued)

<i>Course</i>	<i>Title</i>	<i>Credit Units</i>
Industrial Hygiene 6d	Industrial Medicine	3
Maternal and Child Health 3c, d	Services, Programs, and Administration	6
Maternal and Child Health 4c	Social and Psychological Problems	2
Maternal and Child Health 5c	Maternal Health and Obstetrical Care	1
Maternal and Child Health 6d	Child Health and Preventive Pediatrics	1
Maternal and Child Health 8d	Maternal and Child Nutrition	2
Nutrition 3c, 3d	Topics in Nutrition	.5
Nutrition 4c, 4d	Journal Club	.5
Physiology 2d	Environmental Physiology	1
Public Health Bacteriology 2d	Applied Immunology	1
Public Health Bacteriology 3c, d	Laboratory Tests for Syphilis †	
Public Health Bacteriology 12c, d	Advanced Laboratory Work in Applied Immunology †	
Public Health Bacteriology 13c	Rickettsial Diseases	2
Public Health Practice 3c, d	Problems in Public Health Practice	2
Public Health Practice 5c, d	Administration of Medical-Care Programs	4
Public Health Practice 7c, d	Cancer Control Administration †	
Public Health Practice 9c, d	Mental Health Problems	2
Public Health Practice 12d	Venereal Disease Control	3
Public Health Practice 13c, d	Health Education Problems	2
Public Health Practice 14d	Hospital Organization and Community Relationships	2
Public Health Practice, 15c, 15d	Dental Public Health Practice †	
Public Health Practice 16c, d	Public Health Nursing	1
Public Health Practice 18d	Social Work in Health Agencies	1
Public Health Practice 19c, d	Veterinary Public Health Practice †	
Sanitary Engineering 3c, d	Sanitary Parasitology	4.5
Tropical Public Health 2c, d	Conservation of Health in Tropical Countries	4
Tropical Public Health 3d	Administration of Tropical Public Health Programs	1
Tropical Public Health 4d	International Aspects of Tropical Public Health	1

† Time and credit to be arranged

DOCTOR OF PUBLIC HEALTH

For the degree of Doctor of Public Health the student must complete an approved program of independent investigation and must present the results of this research in an acceptable thesis. To obtain the degree the student must show real ability for independent and original investigation in some special field.

Requirements for Admission

1. An applicant for admission to candidacy for this degree must be (a) a graduate of an approved medical school, (b) the holder of another doctoral degree from a recognized university or scientific school, or (c) in exceptional cases, an individual lacking a previous doctoral degree who has displayed outstanding ability in previous academic work and in practical public health experience.

2. One academic year in residence must have been devoted to the courses forming the curriculum for the degree of Master of Public Health. These courses must have been completed with honor. A student who has fulfilled the requirements for the Master of Public Health degree with honor elsewhere may be accepted provisionally as a candidate for the degree of Doctor of Public Health.

Requirements for the Degree

1. After the applicant is admitted to candidacy for this degree, a special committee will be appointed to investigate his or her preparation in the chosen field and related fields of study, to pass upon the plan of the proposed thesis, and to recommend whether the candidate is eligible to stand for the qualifying examination. This examination is oral, will cover the sciences basic to public health as well as the course work represented by the Master of Public Health degree, and is required of all candidates. It must be absolved before the candidate is permitted to proceed with work on the thesis.

2. In exceptional cases the required work for the degree may be completed in one academic year of resident research, although, generally, preparation of an acceptable thesis will require a longer period.

3. The candidate must possess a reading knowledge of at least one language, other than English, in which there exists a significant body of literature relevant to the candidate's field of study.

4. The special committee appointed to study the applicant's eligibility will continue to supervise his work. After completion of the thesis, the special committee will report to the Committee on Degrees and Examinations upon its acceptability. Ordinarily the thesis must be submitted within five years of the candidate's acceptance.

5. If the thesis is accepted, the Chairman of the Committee on Degrees and Examinations will conduct an oral examination by the Faculty of Public Health on the thesis and on those public health subjects to which the thesis is related.

6. Two bound copies of the thesis must be deposited in the Dean's office at least four weeks before the date on which the degree is to be conferred. Each copy must be accompanied by a summary not exceeding 1200 words in length, which shall indicate clearly the purposes, methods, and results of the investigation.

MASTER OF SCIENCE IN HYGIENE

(With Designation of the Field of Concentration)

This degree is granted on fulfillment of a program of advanced work in one of the basic disciplines of public health. The courses taken must form an integrated plan of study in one branch of knowledge and allied subjects.

Requirements for Admission

Candidates for admission to the School of Public Health for the degree of Master of Science in Hygiene must fulfill the general requirements for admission to the School and must have received an academic degree with distinction from an institution of recognized standing.

Requirements for the Degree

1. Completion of a minimum of two years of graduate work, one of which must have been spent in residence.
2. The student must pursue a program of formal and seminar courses recommended by the head of the department in which the student wishes to concentrate and approved by the Committee on Degrees and Examinations. This program must include the following courses: Public Health Aspects of Human Ecology, Community Organization for Health Service, Biostatistics 1, and Epidemiology 1.
3. The student must complete his program of studies with honor grades. In addition he must pass with an honor grade a comprehensive examination in his principal and related fields of study.

MASTER OF SCIENCE IN HYGIENE IN PUBLIC HEALTH
EDUCATION

The program of study in public health education is offered by the School of Public Health with the cooperation of the Graduate School of Education. Health education is an area of public health in which there has been rapid development in recent years. Professional opportunities are numerous and varied and exist at local, state, and national levels in both official and voluntary agencies.

Requirements for Admission

Candidates must fulfill the general requirements for admission to the School and must have received an academic degree with distinction from an institution of recognized standing. Courses in the biological sciences are prerequisites, and some training in education and psychology is desirable.

Requirements for the Degree

1. Completion of a minimum of two years of graduate work, one of which must have been spent in residence.
2. Completion with honor grades of a program of formal and seminar courses recommended by the Head of the Department of

Public Health Practice and approved by the Committee on Degrees and Examinations.

An appropriate selection of courses may be made from the following to meet the individual needs of the student:

In the School of Public Health

Public Health 1a	Public Health Aspects of Human Ecology
Public Health Practice 1a	Community Organization for Health Service
Public Health Practice 2b	Principles of Public Health Practice
Public Health Practice 13c, d	Health Education Problems
Public Health Practice	Field Work in Community Health Agencies and Workshop
Public Health Practice	School Health Education
Nutrition 2b	Public Health Nutrition
Maternal and Child Health 2b	Problems and Services
Maternal and Child Health 4c	Social and Psychological Problems
Biostatistics 1a, b	Principles of Biostatistics
Epidemiology 1b	Principles of Epidemiology
Sanitary Engineering 1a	Principles of Sanitation

In the School of Education

Educational Administration 15
Educational Administration 16
Guidance 1
Guidance 16
Principles of Teaching 15
Psychology of Learning 141
Psychology of Motivation 145

In the Department of Social Relations

Dynamic Psychology 18
Social Psychology 55

3. In addition the student may be required to take a comprehensive examination in his principal and related fields of study, which must be passed with an honor grade.

4. A field assignment of three months with a qualified health educator in a selected community agency.

DOCTOR OF SCIENCE IN HYGIENE

(With Designation of the Field of Concentration)

This degree is granted on successful completion of a program of independent research in one of the basic disciplines of public health, following broad and adequate preparation enabling the candidate to undertake the research problem.

Requirements for Admission

Candidates for the degree of Doctor of Science in Hygiene must fulfill the general requirements for admission to the School and must have completed the requirements for the degree of Master of Science in Hygiene.

Requirements for the Degree

1. The candidate must possess a reading knowledge of at least two languages, other than English, in which there exists a significant body of literature relevant to the candidate's field of study. This knowledge may be determined by examinations held ordinarily during the months of October and February of each year.

2. Before the applicant is admitted to candidacy for this degree, a special committee will be appointed to examine his or her preparation in the chosen field and related fields of study. Ordinarily, this examination will be given one academic year before the applicant expects to receive the degree. At the discretion of the committee, the comprehensive examination for the degree of Master of Science in Hygiene, when passed with an honor grade, may be substituted for the qualifying examination.

3. The degree of Doctor of Science in Hygiene is given on the basis of high attainment in a special branch of public health science. This must be evidenced by a minimum of one year of resident research, following admission to candidacy.

4. A thesis showing original treatment of a fitting subject for research must be presented before admission to final examination for the degree. Two bound copies of the thesis must be deposited in the Dean's office four weeks before the date on which the degree is expected to be conferred. Each copy must be accompanied by a summary not exceeding 1200 words in length which shall indicate clearly the purposes, methods, and results of the investigation. The thesis must be approved by the committee before the candidate is permitted to take the final examination. This is usually oral and consists of detailed consideration of knowledge in the field of investigation and of work covered by the thesis.

MASTER OF INDUSTRIAL HEALTH

The course of training leading to the degree of Master of Industrial Health is designed to meet the increasing need for physicians qualified to plan, organize, and direct health programs for industry and labor.

Requirements for Admission

Candidates for this degree must be graduates of an acceptable school of medicine. Students from the United States should have completed an internship of at least twelve months in a hospital approved by the American Medical Association. While preference will be given to physicians who have had previous experience in industrial practice, the course is open to all qualified physicians.

Requirements for the Degree

1. One academic year, consisting of four eight-week periods, must be spent in residence at the University.
2. The student must complete 40 credit units satisfactorily. All

candidates for the degree will be expected to take the following courses unless they can demonstrate equivalent preparation:

Industrial Medicine

Basic Problems in Industrial Hygiene
Industrial Medicine
Industrial Medical Clinics
Industrial Organization
Human Problems of Adjustment in Industry

Environmental Hygiene

Human Ecology
Environmental Physiology
Principles of Sanitation
Industrial Air Analysis

Public Health

Principles of Epidemiology
Principles of Biostatistics
Organization of Medical Care
Community Organization for Health Service

In addition, the student may select from the general curriculum, courses of interest to him, or do special work subject to approval of the Head of the Department of Industrial Hygiene.

3. At the end of the academic year, a comprehensive examination may be given. This may be oral or written and will be designed to test the knowledge and judgment of the student and his ability to coordinate the basic industrial health subjects.

SPECIAL STUDENTS

Applicants who do not meet the academic requirements for admission as candidates for degrees may be admitted to certain courses and programs of study at the discretion of the head of each department, and subject to conditions specified by him with the approval of the Committee on Admissions.

Students unable to spend a full academic year at the School may

come for individual courses if their preparation for the course is approved by the head of the department and the Dean.

As the capacity of the School is limited, and priority is given to degree candidates, the number of special students who can be admitted is dependent on the number of applicants who are accepted for the regular course. Therefore, it is not possible to know until early in the fall how many special students can be received.

MASTER OF EDUCATION IN SCHOOL HEALTH EDUCATION *

A program of study in School Health Education is offered by the Graduate School of Education with the cooperation of the School of Public Health. It is designed for experienced teachers who wish to prepare for work as supervisors or directors of school health education. Courses in the biological sciences are prerequisites. The work leading to the degree of Master of Education will be arranged so far as possible to meet the individual needs of the students. The technical program will include a field apprenticeship.

An appropriate selection of courses may be made from the following:

In the School of Education

Educational Administration 15

Educational Administration 16

Guidance 1

Guidance 12

Guidance 16

Educational Measurement 2

Educational Measurement 11

Educational Measurement 54

Principles of Teaching 15

In the School of Public Health

Public Health 1a

Public Health Aspects of Human Ecology

* For further information write The Secretary, Graduate School of Education, Lawrence Hall, Cambridge 38, Massachusetts.

Public Health Practice 1a	Community Organization for Health Service
Public Health Practice 2b	Principles of Public Health Practice
Public Health Practice 13c, d	Health Education Problems
Public Health Practice	Field Work in Community Health Agencies and Workshop
Public Health Practice	School Health Education
Nutrition 2b	Public Health Nutrition
Maternal and Child Health 2b	Problems and Services
Maternal and Child Health 4c	Social and Psychological Problems
Biostatistics 1a, b	Principles of Biostatistics
Epidemiology 1b	Principles of Epidemiology
Sanitary Engineering 1a	Principles of Sanitation

Special-Field Examination

The special-field examination in the work of this program will cover the material of the courses individually prescribed and of the apprenticeship.

MASTER OR DOCTOR OF SCIENCE IN ENGINEERING

Graduates of engineering colleges or scientific schools of recognized standing who are interested in the sanitary engineering or industrial hygiene aspects of public health may be admitted to the Department of Engineering of the Graduate School of Arts and Sciences as candidates for the degree of Master or Doctor of Science. They may elect any of the courses offered in the School of Public Health.

For further information write to the Committee on Admissions, Graduate School of Arts and Sciences, Farlow House, Cambridge 38, Massachusetts.

GENERAL INFORMATION

Registration

Registration in the School of Public Health for the academic year 1949-50 is from Monday, September 19 to Friday, September 23. Adequate time should be allowed by the student for discussion of his program with the Dean or Assistant Dean of the School, who must approve each schedule.

All students who are not citizens of the United States will be referred before registration to the Counselor for Foreign Students, 24 Quincy Street, Cambridge, where they will present a statement of admission, show their passports, and fill out a Student Registration form. They will then receive a card for presentation at registration, showing they have been cleared by the office of the Counselor for Foreign Students.

Veterans

Information about the procedure to be followed in applying for educational benefits under the G.I. Bill may be secured from the Secretary of the School or from the Counselor for Veterans, Government Aid Department, Weld Hall, Cambridge.

Veterans must file with the Dean a form giving complete information concerning their discharge from military service. Admission of veterans to the School is subject to approval by the Department of Hygiene of the University.

Housing

There are no dormitories for students of the School of Public Health but they may get their meals at Vanderbilt Hall dining room, the Medical School dormitory. Usually it is possible to rent furnished rooms in hotels or private homes in the vicinity of the School, or in the nearby residential section of Brookline. The School will supply such information as can be secured about available quarters but the responsibility for obtaining quarters rests with the student. The University maintains a Room Registry for graduate students at Phillips Brooks House in Harvard Square, Cambridge. Applications for

quarters for married students and their families are handled by the office of Hunneman and Company, 18 Brattle Street, Cambridge. Students with families are advised to come at least three weeks in advance of registration and not to bring their families with them until living quarters are secured. Other students should plan to reach Boston at least a week in advance of registration.

Fees and Expenses

The fee for tuition for each academic year is \$570 for all full-time students.* For part-time students the fee varies according to the courses taken and is based on the proportion of the annual fee for instruction which the credit units for each course bear to the total number of credits necessary for the degree of Master of Public Health, plus \$5.00 for each course. For example, a part-time student taking a course with a credit unit value of 2 would pay a tuition fee of \$33.50; a student taking a course with a credit unit value of 4 would pay \$62.00.

The fees required of candidates for the degrees of Master of Science in Hygiene, Doctor of Science in Hygiene, and Doctor of Public Health will be prorated according to the course credits (including research courses) taken in any year on the same basis as mentioned above for part-time students working for the degree of Master of Public Health, but the total amount of fees paid toward any degree must equal the minimum residence tuition requirement for the specific degree. The \$5.00 course fees required of part-time students are not included as prorated credit fees. Students who have completed the course work and the residence requirement for any degree, or have paid a total of two years' full tuition toward the doctorate (at least one of which is subsequent to the completion of work equivalent to the requirements for the master's degree) and still have degree requirements to be fulfilled, shall pay, for a period which shall not ordinarily extend beyond two additional years, a tuition fee of half-rate per year for full-time work, and in proportion for less

* It is anticipated that the tuition for the year 1950-51 will be \$770.

than full-time work. Residence is interpreted to mean that an individual is registered as a student and is using one or more of the facilities of the University. Residence may be completed on a part-time basis in proportion to the amount of fees paid relative to the total fee required to fulfill the minimum residence requirement, but in no case shall the tuition fee be less than \$50 per half-year for students, either part-time or full-time, who are in residence. A fee of \$25 per half-year shall be charged for any student completing degree requirements away from Harvard University.

Each full-time student will be charged a medical and infirmary fee of \$30 per year. Part-time students working at the *rate of* substantially half-time or less and living at home may be excused by the Bursar from the payment of such fee at any time within two weeks after their registration, upon the recommendation of the Dean.

Bills for tuition and fees will be issued and payable as follows:

Issued Payable

At registration		{ $\frac{1}{4}$ of the tuition for the year $\frac{1}{2}$ medical and infirmary fee for the year
Nov. 18	Dec. 9	{ $\frac{1}{4}$ of the tuition for the year board through October 31 miscellaneous charges
Jan. 20	Feb. 10	{ $\frac{1}{4}$ of the tuition for the year $\frac{1}{2}$ medical and infirmary fee for the year board through December 31 miscellaneous charges
April 20	May 10	{ $\frac{1}{4}$ of the tuition for the year board through March 31 miscellaneous charges
June 14 *	June 21	{ board to the end of the year miscellaneous charges
June 30	July 15	{ board to the end of the year miscellaneous charges

* Applies only to candidates for degrees.

Students who are candidates for degrees must have paid all dues to the University at least one day before the day upon which the degrees are to be voted. A student who leaves during the year is charged to the end of the tuition period in which he leaves provided before that time he gives the Dean notice in writing of his withdrawal; otherwise he is charged to the end of the tuition period in which such notice is given.

A student who leaves the University for any reason whatever must pay all charges against him immediately upon receipt of a bill from the Bursar. Every student will be held responsible for the payment of fees until he has notified the Dean of his intention to withdraw from the School.

All term bills will be sent to the student at his local address unless the Bursar is requested in writing to send them elsewhere.

Any student whose indebtedness to the University remains unpaid on the date fixed for payment is deprived of the privileges of the University until he is reinstated. Reinstatement is obtained only by consent of the Dean of the School in which the student is enrolled, after payment of all indebtedness, and a fine of \$10 for late payment.

Bond Requirement

Upon entrance to the School every student is required to file with the Bursar a bond in the sum of \$500 as security for payment of University bills. The bond must be signed by two bondsmen, both of whom must be citizens of the United States, or by a surety company duly qualified to do business in Massachusetts. No officer or student of the University will be accepted as a bondsman and in no case will more than one parent be accepted. In lieu of the bond a student may deposit with the Bursar \$500 in United States Treasury coupon-bearing bonds, or \$500 in cash, which will bear no interest. Blank forms of bonds may be obtained at the Dean's office or from the Bursar.

Student Health Service

In return for payment of the medical fee the School provides to

students a physician who will give medical advice and treatment without charge during the school year. He is available to students for consultation at his office in Building A, Harvard Medical School, from 8:30 to 9:00 a.m., and from 4:30 to 6:00 p.m. daily except Saturdays and holidays. He may also be seen at other times by appointment and at any time in case of emergency. The fee also covers, when necessary, board and ordinary nursing care, for not more than a total of two weeks per term, in the Stillman Infirmary or in one of the teaching hospitals of the Medical School. There will be an extra charge for private rooms, special nursing care, X-rays, and special treatment. In addition, each student is entitled to all the medical and other services that have been organized under the Student Health Service plan of the University.

Any illness necessitating absence from classes should be reported to the Student Health Office by the student, or by an attending physician.

Under the auspices of the Department of Medicine of the Harvard Medical School students paying the medical fee will be required to undergo a complete medical examination shortly after admission to the School.

Evidence of having been satisfactorily vaccinated is required for entrance to Harvard University and a form of certification for this purpose is sent to each student who is accepted for admission.

Fellowships and Scholarships

The School of Public Health has no fellowships or scholarships of its own. However, students in the School may be eligible for certain fellowships and scholarships derived from special gifts to the University, which are open to students in all departments (see the general University catalogue for list). These are administered by the Committee on General Scholarships, of which the Dean of the Faculty of Arts and Sciences is chairman. Application for any of these fellowships or scholarships must be made on a special form which may be obtained from the Chairman of the Committee on General Scholarships, 5 University Hall, Cambridge 38, Mass.

CONTENT OF THE COURSES OFFERED BY THE FACULTY OF PUBLIC HEALTH

INTERDEPARTMENTAL COURSES

In addition to the instruction afforded in the various disciplines represented by the different departments of the School, it is believed to be important to bring the entire faculty and student body together at frequent intervals to consider broad subjects of basic importance to the entire group. With this in mind, the School has provided the following interdepartmental courses, which are designated, respectively, as (1) Public Health Forums, and (2) Public Health Aspects of Human Ecology.

Public Health Forums. The Evolution, Scope, and Objectives of Public Health

Lectures and seminars. Time to be arranged. Dean SIMMONS, members of the Faculty, and guest lecturers.

A series of Forums will be held during the year in order to afford an opportunity for the entire student body to meet with the Faculty and distinguished guest lecturers to consider in a broad way the evolution, scope, and objectives of the profession of public health.

The modern practice of public health requires coordinated teamwork and the integrated action of experts trained in a number of different, though related, scientific fields. Proper emphasis is given to training in these special disciplines in the courses offered by the various departments. However, it is impossible for every student to take all the courses, and certain individuals may have no contact with one or more departments. These general public health forums will have the advantage of cutting across departmental lines. They will give every student some contact with all sections of the School, and make it possible for him to learn something of the objectives and interests of each department and its relation to public health as a whole.

The main purposes of these lectures and seminars are to help orient the stu-

dent, to assist him in visualizing the wide field covered by his chosen profession, and to stimulate constructive thinking and planning for his future activities.

Some of the sessions will be devoted to a broad survey of the historic development, the present status, and the future objectives of public health; others will present special applications of basic public health disciplines.

Public Health 1a. Public Health Aspects of Human Ecology

Lectures and seminars. *Mondays and Wednesdays, 11-1, first period.* Members of the Faculty and guest lecturers.

Credit 2 units.

In 1949-50, this course will be organized and directed by Dr. James L. Whittenberger, Head of the Department of Physiology. The purpose is to impart a basic understanding of human ecology. Human ecology combines that branch of biology concerned with the relations between man and his environment and that branch of sociology dealing with the relations of people and institutions and their interdependency.

The course has two main divisions: (1) Man as an Organism in Health and Disease. The subjects in this division include the concept of "normal" man, and the fundamental principles of physiology that govern adaptation to environment during periods of growth, development, and aging. (2) The Environment in Health and Disease. The environment of man is interpreted in terms of physical, biological, and social factors. Specific topics deal with diet and nutrition, problems of food supply in relation to world population, housing, the influence of climate and weather, the biology of infectious agents, and the influences of industry and modern transportation on human health. Consideration is given to the activities of man in modifying his environment.

DEPARTMENT OF BIOSTATISTICS

HUGO MUENCH, A.B., M.D., Dr.P.H., A.M. (hon.), *Professor of Biostatistics and Head of the Department*

EDWIN B. WILSON, A.B., Ph.D., *Professor of Vital Statistics, Emeritus*

CARL R. DOERING, A.B., M.D., S.D., *Assistant Professor of Biostatistics*

JANE WORCESTER, A.B., Dr.P.H., *Assistant Professor of Biostatistics*

ROBERT B. REED, A.B., A.M., Ph.D., *Assistant Professor of Biostatistics*

Biostatistics 1a, b. Principles of Biostatistics

Lectures, discussions, and laboratory. *Mondays and Wednesdays, 2-5, first and second periods.* Dr. MUENCH and associates.

Credit 4 units.

This course is designed to cover the basic principles of statistical method as applied to biological sciences in general and to public health problems. Subjects presented will include collection, tabulation, and elementary analysis of data; measures of center and of dispersion; and sampling from populations. The aim of the course is to prepare the student to draw justified conclusions from numerical data.

Biostatistics 2c, d. Statistical Analysis

Lectures, discussions, and laboratory. *Wednesdays, 10-1, Saturdays, 9-12, third period; Wednesdays and Fridays, 9-12, fourth period.* Dr. MUENCH and associates.

Credit 4 units.

This course is designed to give training to the epidemiologist and the research worker in the proper use of statistical methods in the analysis and interpretation of questions which can be stated statistically. In general, the course will deal with the interrelation of variables, the interpretation of trends of different sorts, and the elementary mathematical analysis of biological phenomena.

Prerequisites: Biostatistics 1a, b; Epidemiology 1b; or their equivalents.

Biostatistics 3c. Morbidity and Medical-Care Statistics

Seminars. *Mondays, 2-4, third period.* Dr. DOERING, Dr. GOLDMANN.

Credit 1 unit.

This course, given jointly with the Department of Public Health Practice (see Public Health Practice 17c) provides for study of statistical methods suitable for determining the amount and severity of illness, the need for resources, and the effectiveness of medical-care programs.

Prerequisites: Biostatistics 1a, b; Public Health Practice 2b and 4b; or their equivalents.

Biostatistics 4d. Statistical Evaluation of Problems in Maternal and Child Health

Seminars. *Wednesdays and Fridays, 2-4, fourth period.* Dr. REED, Dr. STUART, and associates.

Credit 2 units.

This course is given jointly with the Department of Maternal and Child Health (see Maternal and Child Health 7d). It deals in the first instance with statistical interpretation of birth rates, stillbirth rates, maternal mortality, and infant and child mortality rates. It considers also interpretation of data on morbidity rates at these periods. Thereafter, attention will be given to data accumulated over a long period of years in connection with study of growth and development of children, with the purpose of understanding the statis-

tical methods applicable to evaluation of the growth status and progress in childhood.

Prerequisites: Biostatistics 1a, b; Maternal and Child Health 1a, b or 2b; or their equivalents.

Biostatistics 5d. Advanced Statistical Methods

Seminars. *Mondays, 2-4, fourth period.* Dr. WORCESTER, Dr. MUENCH.

Credit 1 unit.

The content of this course will vary from year to year. During 1949-50, the subject will be the statistical treatment of laboratory data, including the problem of dosage response.

Prerequisites: Biostatistics 1a, b and 2c, d; or their equivalents.

Biostatistics 6c, d. Seminar in Biostatistics

Seminars. *One period of two hours weekly throughout the third and fourth periods.* Time to be arranged. Staff of the Department.

Credit 2 units.

This seminar is arranged primarily for the Department's staff. However, occasional students with special interest and sufficient preparation will be admitted.

Biostatistics 20. Biostatistical Research

Time and credit to be arranged according to amount of work done.

Reading and research in selected topics of biostatistics by students specializing in this field or those who desire supervision in working out statistical problems in their special fields of interest.

DEPARTMENT OF EPIDEMIOLOGY

JOHN E. GORDON, S.B., Ph.D., M.D., A.M. (hon.), F.R.C.P. (Lond.), *Professor of Preventive Medicine and Epidemiology and Head of the Department*

CONRAD WESSELHOEFT, M.D., *Clinical Professor of Infectious Diseases*

THEODORE H. INGALLS, A.B., M.D., *Assistant Professor of Epidemiology*

A. DANIEL RUBENSTEIN, A.B., M.D., M.P.H., *Assistant Professor of Epidemiology*

JOHANNES IPSEN, C.A., C.M., M.D., M.P.H., *Assistant Professor of Epidemiology*

JOHN J. POUTAS, A.B., M.D., *Instructor in Epidemiology*

HUGH L. C. WILKERSON, S.B., M.D., M.P.H., *Research Fellow in Epidemiology*

TOM F. WHAYNE, A.B., M.D., M.P.H., *Research Fellow in Epidemiology*

W. LLOYD AYCOCK, M.D., *Associate Professor of Preventive Medicine and Hygiene*

LOUIS WEINSTEIN, S.M., Ph.D., M.D., *Lecturer on Infectious Diseases*

Epidemiology 1b. Principles of Epidemiology

Lectures and seminars. *Mondays and Wednesdays, 11-1, Thursdays, 10-11, second period.* Dr. GORDON and associates.

Credit 2 units.

An introduction to epidemiology, presenting the principles, historical development, and methods of epidemiologic investigation. Current and classical illustrations of epidemic and endemic prevalence are used to demonstrate the factors governing infection, disease resistance, and immunity in population groups. Selected problems dealing with the investigation and control of communicable and noncommunicable disease, and of injuries, serve to illustrate the application of the epidemiologic method in public health practice.

Prerequisite: Biostatistics 1a, b.

Epidemiology 5c. The Practice of Epidemiology

Conferences, seminars, and laboratory exercises. *Mondays, Tuesdays, Thursdays, and Fridays, 10-1, third period.* Dr. GORDON, Dr. RUBENSTEIN, Dr. IPSEN, and associates.

Credit 4 units.

A conference and laboratory course dealing principally with the epidemiology of acute communicable disease. The laboratory work demonstrates field methods used in collection, analysis, and interpretation of data derived from epidemic and endemic situations. Modes of infection are defined and the laws of epidemics examined. Correlation of clinical, field, and laboratory procedures is emphasized in the development and evaluation of programs for prevention of disease and management of epidemics.

Prerequisite: Epidemiology 1b.

Epidemiology 6c. Clinical Aspects of Infectious Diseases

Lectures, demonstrations, clinics, and conferences. *Mondays and Fridays, 9-10; Clinics, Fridays, 3:30-5, third period.* Dr. WESSELHOEFT and associates.

Credit 1.5 units.

The care and management of patients with acute infectious diseases are presented with special reference to the problems of the epidemiologist and health officer. Diagnostic methods, isolation of patients in home and hospital, and modern methods of treatment are presented and discussed.

Epidemiology 7b, 7c, 7d. Special Problems in Infectious Diseases

Seminars and clinics. *Saturdays, 9-11, second, third, or fourth periods.*
Dr. WESSELHOEFT and associates.

Credit .5 unit in each period.

An advanced course in clinical infectious diseases dealing with selected topics based on available clinical material at the Haynes Memorial Hospital.

Epidemiology 9d. Military Preventive Medicine

Seminars. *Fridays, 10-12, fourth period.* Dr. GORDON, Dr. WHAYNE.

Credit 1 unit.

A series of seminars, conferences, and demonstrations concerned with administrative and professional problems in military preventive medicine. Designed primarily for students from the military services. Admission by permission of the instructors.

Epidemiology 15a, b, c, d. Advanced Epidemiology

Seminars. *Fridays, 2-4, first, second, and fourth periods; Mondays, 2-4, third period.* Time for individual work to be arranged. Dr. GORDON, Dr. INGALLS.

Credit 1 to 3 units in each period.

An informal course designed to further a command of the epidemiologic method through individual training and practical experience. Each student is assigned a problem or develops a previous interest through field study, laboratory experiment, or library investigation. Seminars are devoted to discussion of these problems. Admission is by permission of the instructor and credit is in proportion to the amount of time devoted to the work. No more than ten students will be accepted.

Epidemiology 20. Research in Epidemiology

Qualified students are offered the opportunity to undertake special studies in the acute communicable diseases, or in community problems of noncommunicable processes or injuries. Problems may be assigned or aid is provided in developing individual interests.

Epidemiology 30c. Field Observations

Field visits. Dr. INGALLS.

Credit 1 unit.

A week of planned visits in the New York area, limited to field and research activities in epidemiology, and including the Bureau of Preventable Diseases, City of New York Department of Health, The Rockefeller Foundation, and Lederle Laboratories.

DEPARTMENT OF INDUSTRIAL HYGIENE

PHILIP DRINKER, S.B., Chem.E., S.D. (hon.), LL.D., A.M. (hon.), *Professor of Industrial Hygiene and Head of the Department*

CONSTANTIN P. YAGLOU, B.A., S.B., M.M.E., *Professor of Industrial Hygiene*

LESLIE SILVERMAN, S.B., S.M., S.D., *Associate Professor of Industrial Hygiene*

ROSS A. MCFARLAND, A.B., Ph.D., S.D. (hon.), *Associate Professor of Industrial Hygiene*

ALBERT O. SEELER, A.B., M.D., *Assistant Professor of Industrial Medicine*

CHARLES R. WILLIAMS, A.B., A.M., Ph.D., *Assistant Professor of Industrial Hygiene*

WILLIAM H. FORBES, A.B., A.M., Dr.Phil., *Lecturer on Industrial Hygiene*

ROBERT B. O'CONNOR, A.B., M.D., *Lecturer on Industrial Medicine*

EMMA S. TOUSANT, LL.B., *Instructor in Industrial Hygiene*

HARRIET L. HARDY, A.B., M.D., *Instructor in Industrial Hygiene*

GEORGE S. REICHENBACH, JR., B.Appl.Chem., S.M., *Research Associate in Industrial Hygiene*

HENRY C. MARBLE, A.B., M.D., *Assistant in Industrial Hygiene*

ROBERT M. THOMSON, *Assistant in Industrial Hygiene*

B. A. LINDBERG, M.E., *Associate Professor of Business Administration*

C. GUY LANE, A.B., M.D., *Clinical Professor of Dermatology, Emeritus*

Industrial Hygiene 1c. Basic Problems in Industrial Hygiene

Lectures and demonstrations. *Mondays and Fridays, 2-4, Wednesdays, 1:30-5, third period.* Professor DRINKER, Dr. SEELER, and associates.

Credit 3 units.

A course of lectures, demonstrations, and inspections showing the relation of working conditions to health, with special reference to elimination of industrial hazards and prevention and treatment of industrial disabilities and diseases.

Industrial Hygiene 2a, b and 2c, d. Industrial Air Analysis

Laboratory work. *Tuesdays and Thursdays, 2-5, all four periods.* Dr. SILVERMAN, Dr. WILLIAMS.

Credit 3 units in each term.

Determination and interpretation of adverse conditions found in work places of all types, such as factories and mills, and in assembly halls; methods employed in determining physical properties of the air, such as temperature,

humidity, and air motion; atmospheric impurities and normal constituents of the air — gases, dusts, bacteria, and pollens; efficiencies of protective devices — masks, respirators, mechanical dust-collecting apparatus, hoods, and exhausters; efficiencies of air-conditioning equipment.

Physicians enrolled in the Industrial Health program will take only the first period (2a) and the third period (2c) of this course.

Industrial Hygiene 3a, b, c, d. Industrial Medical Clinics

Time and credit to be arranged. Dr. SEELER, Dr. O'CONNOR, Dr. HARDY, and associates.

This course will run throughout the year. Students will participate in appropriate clinics at teaching hospitals and in medical clinics of various industries.

Industrial Hygiene 4b. Industrial Organization

Lectures. *Mondays and Wednesdays, 9-10, second period.* Associate Professor LINDBERG.

Credit 1 unit.

The objectives of this course are to explore various types of industrial and business organizations, to develop an appreciation of the various relations between departmental functions, and to trace the effects of these relations upon the individual worker, the supervisor, the organization itself, and society.

The functions of a medical department as well as its interrelations with other line and staff departments are considered. Special consideration is given to problems in the administration of a medical department where collective bargaining relations exist. These functions, activities, and problems are studied through a series of cases covering employee health, employee safety, rehabilitation, and retirement programs.

Industrial Hygiene 5c. Human Problems of Adjustment in Industry

Lectures and demonstrations. *Tuesdays and Thursdays, 9-10, third period.* Dr. McFARLAND.

Credit 1 unit.

Initial emphasis is placed on the design and operation of equipment and working procedures in relation to the operator. The techniques of various biological sciences are used to establish design criteria and minimum standards. A study of job requirements is then made to determine the psychologic and physical demands placed upon the worker in achieving successful job placement. With this background, principles are derived for the control of accidents, operational fatigue, and other basic factors influencing efficiency and health. Attention is also given to the problems of gerontology and of workers with physical handicaps. The course is concluded with emphasis on mental

and emotional adjustment of workers and factors influencing effective group functioning.

Industrial Hygiene 6d. Industrial Medicine

Lectures and seminars. *Tuesdays and Thursdays, 10-12, Wednesdays, 1:30-5, fourth period.* Dr. O'CONNOR, Dr. SEELER, and associates.

Credit 3 units.

This course will be devoted to medical problems of importance to the industrial physician. The following are among the subjects that will be considered: functions of the industrial physician; functions of the industrial nurse; organization of industrial medical departments; medical aspects of workmen's compensation; preplacement examinations; geriatric problems in industry and rehabilitation; relation of trauma to disease.

Industrial Hygiene 7d. Industrial Hygiene Engineering

Lectures and problems. *Mondays, Wednesdays, and Fridays, 2-4, fourth period.* Professor DRINKER, Dr. SILVERMAN.

Control of industrial conditions by engineering methods; field trips, reports, design and operation of equipment. For engineers.

Engineering 280a. Heating and Ventilation

Lectures. *Mondays, Wednesdays, and Fridays, 8-9, fall term, at Pierce Hall, Cambridge.* Professor YAGLOU.

The theory and practice of heating and ventilating. For engineers.

Engineering 280b. Air Conditioning

Lectures. *Mondays, Wednesdays, and Fridays, 8-9, spring term, at Pierce Hall, Cambridge.* Professor YAGLOU.

The theory and practice of air conditioning. For engineers.

Industrial Hygiene 20. Research

A limited number of qualified students will be given an opportunity to do research work in problems of industrial health including occupational disease, toxicology, air cleaning, heating, ventilating, and air conditioning, by arrangement with the head of the Department.

DEPARTMENT OF MATERNAL AND CHILD HEALTH

HAROLD C. STUART, Litt.B., M.D., A.M. (hon.), *Professor of Maternal and Child Health and Head of the Department*

WILLIAM M. SCHMIDT, M.D., *Associate Professor of Maternal and Child Health Practice*

BERTHA S. BURKE, A.B., A.M., *Assistant Professor of Maternal and Child Nutrition*

SAMUEL B. KIRKWOOD, A.B., M.D., *Assistant Professor of Maternal Health*

ELIZABETH P. RICE, A.B., S.M., *Assistant Professor of Medical Social Work*

LEONA BAUMGARTNER, A.B., Ph.D., M.D., *Visiting Lecturer on Maternal and Child Health*

STANTON GARFIELD, A.B., M.D., M.P.H., *Instructor in Child Health*

JEAN F. WEBB, B.Sc., M.D., C.M., D.P.H., *Instructor in Maternal and Child Health*

KATHLEEN SCOBIE, S.B., S.M., *Research Fellow in Maternal and Child Health*

MYRON S. FEINSTEIN, M.D., *Research Fellow in Maternal and Child Health*

RUTH MARIE GAESSLER, S.B., *Assistant in Maternal and Child Health*

RUTH CUTTER, S.B., S.M., *Assistant in Maternal and Child Health*

CHARLES A. JANEWAY, A.B., M.D., *Thomas Morgan Rotch Professor of Pediatrics*

DAVID RUTSTEIN, S.B., M.D., *Professor of Preventive Medicine*

BRONSON CROTHERS, M.D., *Clinical Professor of Pediatrics*

WILLIAM T. GREEN, A.M., M.D., *Clinical Professor of Orthopedic Surgery*

CLEMENT A. SMITH, M.D., *Associate Professor of Pediatrics at the Boston Lying-in Hospital*

STEWART H. CLIFFORD, M.D., *Associate in Pediatrics*

LONDON SNEDEKER, A.B., M.D., M.P.H., *Instructor in Pediatrics*

ROBERT M. RAVVEN, A.M., M.D., *Instructor in Psychiatry*

The public health problems and activities which concern a division of maternal and child health have to do with many fields of science. Some of these relate to the health and welfare of all age groups, but are of particular importance to the infant or the child. Others are problems of early life only, or require special services for these age groups. Still others relate only to the health of women during the childbearing period. Since this range of subjects is very broad, the Department gives little attention to those problems pertaining to health which are more fully considered by other departments of the School. On the other hand, the special problems peculiar to maternity and childhood are considered, even though they may relate to the general fields of other departments. Thus the special aspects of diet during pregnancy and lactation, infant feeding, and diet at succeeding periods of childhood are emphasized. Communicable diseases commonly occurring in childhood are not studied in all aspects, but immunization procedures and environmental control

measures particularly applicable in early life are discussed. Administrative procedures for the conduct of special maternal and child health services are given consideration, in close collaboration with the Department of Public Health Practice.

A general course is given in the second period of the academic year for students who are not specializing in this field but who desire to obtain a broad understanding of the problems and services of maternal and child health. This course is open to all students of the School except those who are majoring in this Department. The latter may audit lectures but are not given credit for the course, as its content is covered in special courses designed for them.

A program of courses, covering the special problems of maternal and child health, continues throughout the four periods of the academic year; these courses are offered to students specializing in this field. During the first two periods, the problems of maternity, infancy, childhood, and adolescence are dealt with; whereas, during the third and fourth periods, attention is devoted to the services organized to meet these problems and the administrative aspects of these services. In addition to these special courses, students majoring in maternal and child health are required to do individual work during the third and fourth periods as described under Maternal and Child Health 20.

The Department offers advanced seminar courses as electives for those who are interested and qualified. In the third period, a course is given in social and psychologic problems of maternity and childhood. Another course is designed for physicians who wish to obtain more of the clinical aspects of maternal care. In the fourth period, a similar course is given for physicians interested in child care. During this period, a course in maternal and child nutrition is given and also one is given jointly with the Department of Biostatistics, dealing in detail with the statistical analysis of problems in maternal and child health and in growth and development.

In addition to the courses required of all students enrolled for the Master of Public Health degree, students majoring in maternal and child health are expected to take as many of the following courses as their schedule permits, approval of their selections by the head of the Department being required: Basic Nutrition (first period) and Public Health Nutrition (second period) in the Department of Nutrition; Principles of Public Health Practice or Organization of Medical Care (second period), and Health Education (third and fourth periods) in the Department of Public Health Practice; at least one advanced course in the Department of Maternal and Child Health in each of the third and fourth periods; and at least one field trip during a free period between scheduled courses.

Clinical demonstrations will be arranged in the regular courses from time to time in connection with discussions of clinical problems and services. These may be at the Boston Lying-in Hospital, the Children's Medical Center, or in

public or private health agencies in the vicinity. It should be understood, however, that clinical training in obstetrics and pediatrics cannot be provided as part of the curriculum offered by this Department.

With the exception of the general course in the second period, all the courses in maternal and child health are organized on a panel discussion or seminar basis, with occasional lectures as required for presentation of material not readily available in the literature. The panel or seminar methods of instruction permit active student participation in discussions, and this participation is encouraged through assignment of subjects for individual presentation.

GENERAL COURSE

Maternal and Child Health 2b. Problems and Services

Lectures and panel discussions. *Mondays and Saturdays, 10-11, Wednesdays, 9-11, second period.* Dr. STUART, Dr. KIRKWOOD, Mrs. BURKE, Miss RICE, Miss FRAZIER, Dr. SCHMIDT.

Credit 2 units.

This is a single course covering maternal, infant, and child health problems and services in broad outline. It deals with the major causes of illness, disability, and death, as well as failure of normal development, at each age period. It deals also with preventive measures applicable to each cause and the special services designed to meet various health problems of mother, fetus, infant, and child. Administration of programs dealing with these problems is considered in connection with the discussion of the various services required. This course is designed for all students of public health except those who are concentrating in the field of maternal and child health.

SPECIAL COURSES

(Required of students majoring in the Department)

Maternal and Child Health 1a, b. Basic Problems

Lectures and seminars. *Mondays and Fridays, 9-11, first period; Tuesdays and Fridays, 9-11, second period.* Dr. STUART, Dr. KIRKWOOD, Mrs. BURKE, Miss RICE, Dr. REED, Dr. ———.

Credit 4 units.

This course deals first with the special problems of maternity in relation to the periods of pregnancy, labor, delivery, and the puerperium, from the standpoints of maternal, fetal, and early infant health. Social, psychologic, nutritional, and other factors in family and community life which have an important bearing on the pregnant woman, as well as on the infant and child, will be

presented. The course then deals with basic information regarding the well child and his requirements for normal growth and health. It deals further with the relative importance of different causes of death and illness by age and locality and with the progress thus far made in preventing these occurrences. The purpose here is to provide a better understanding of the extent and nature of the leading problems of maternal and child health. Familiarity with these subjects is essential for work in the field of maternal and child health and is important for those who propose to take the other special courses given by the Department.

Maternal and Child Health 3c, d. Services, Programs, and Administration

Lectures and seminars. *Tuesdays, Wednesdays, and Fridays, 10-12, third period; Mondays, Wednesdays, and Fridays, 9-11, fourth period.* Dr. SCHMIDT, Dr. STUART, Miss FRAZIER, Miss RICE, and associates.

Credit 6 units.

This course deals with the application through public health services of the knowledge derived from Maternal and Child Health 1a, b. It is designed to provide thorough understanding of the methods of organizing and supervising programs and services at various levels of government and in different types of communities. Administration of programs will be discussed and demonstrations of services afforded whenever circumstances permit. Administrators from the field will participate in the course from time to time as guest lecturers or in panel discussions. In so far as possible the services will be grouped under the headings of Maternal and Newborn Services, Infant and Pre-school Child Health Services, and School Health Services and Programs for Crippled Children. They will also be considered in relation to federal, state, and municipal programs, and services in rural areas.

ADVANCED ELECTIVE COURSES

Maternal and Child Health 4c. Social and Psychological Problems

Seminars. *Mondays, 10-12, Tuesdays, 2-4, third period.* Miss RICE and associates.

Credit 2 units.

This course goes more deeply into the basic social, psychologic, and other human factors in the family and community life which have important bearing on the mother and the child. The educational factors will be considered. Members of the Faculty will be assisted by representatives in the fields of education, child psychology, psychiatry, the social sciences, and social work.

Maternal and Child Health 5c. Maternal Health and Obstetrical Care

Seminars and clinics. *Thursdays, 10-12, third period.* Dr. KIRKWOOD and associates.

Credit 1 unit.

This course is limited to physicians and nurses and will deal with clinical problems having an important bearing upon maternal and child health. It will consist of visits to or clinics at the Boston Lying-in Hospital, The Women's Free Hospital, and other maternity-care centers, as well as seminar discussions at the School. The programs for preconceptional care, prenatal care, delivery services, and newborn services will be considered.

Maternal and Child Health 6d. Child Health and Preventive Pediatrics

Seminars and clinics. *Mondays, 2-4, fourth period.* Dr. ———, Dr. SCHMIDT, and associates.

Credit 1 unit.

This course is limited to physicians and nurses and will deal with the clinical aspects of preventive medical services for children. It will consist of clinical demonstrations and case history discussions at the Children's Medical Center or the School, covering the major clinical problems subject to preventive control.

Maternal and Child Health 7d. Statistical Evaluation of Maternal and Child Health Problems

Seminars. *Wednesdays and Fridays, 2-4, fourth period.* Dr. REED, Dr. STUART, and associates.

Credit 2 units.

This course is given jointly with the Department of Biostatistics (see Biostatistics 4d). It deals in the first instance with statistical interpretation of birth rates, stillbirth rates, maternal mortality, and infant and child mortality rates. It considers also interpretation of data on morbidity rates at these periods. Thereafter, attention will be given to data accumulated over a long period of years in connection with studies of growth and development of children, with the purpose of understanding the statistical methods applicable to evaluation of growth status and progress in childhood.

Prerequisites: Maternal and Child Health 1a, b or 2b; Biostatistics 1a, b; or their equivalents.

Maternal and Child Health 8d. Maternal and Child Nutrition

Seminars. *Tuesdays, 10-12, Thursdays, 9-11, fourth period.* Mrs. BURKE and associates.

Credit 2 units.

This course is designed for advanced training by students majoring in public health nutrition or in maternal and child health. It will include a consideration of the bases for the nutritional requirements of pregnancy, lactation, infancy, childhood, and adolescence. Practical problems involved in meeting these requirements by the daily diet will be discussed. The dietary history both as a clinical and a research tool in evaluating the nutritional intake will be studied.

Maternal and Child Health 20. Special Assignments for Individual Work

This course is designed specifically for students majoring in maternal and child health or a closely related field. It affords these students an opportunity to do individual work for credit under instructor guidance on problems relating to this special field. Each program will be arranged in conference between student and instructor and must be accepted in advance by the head of the Department. In general, such programs will include review of the literature on the subject selected, clinical observations including some original work, and a paper reporting the work done. Students majoring in maternal and child health are required to have 4 units of credit in this course during the third and fourth periods.

Maternal and Child Health 30c and 30d

Field trips for training in maternal and child health services. *Three to five days each during periods in January, April, and June.* Dr. SCHMIDT, Miss FRAZIER, and associates.

Credit .5 unit for each three-day trip; 1 unit for each five-day trip.

Trips will be arranged during periods in which no classes are held at the School. Students electing these field exercises will have opportunities to see programs in operation under Departments of Maternal and Child Health and to participate in discussions with members of these departments regarding practical problems of service and administration.

DEPARTMENT OF NUTRITION

FREDRICK J. STARE, S.B., S.M., Ph.D., M.D., A.M. (hon.), *Professor of Nutrition and Head of the Department*

DAVID M. HEGSTED, S.B., S.M., Ph.D., *Associate Professor of Nutrition*

ROBERT P. GEYER, A.B., Ph.D., *Assistant Professor of Nutrition*

GEORGE V. MANN, A.B., Sc.D., M.D., *Assistant Professor of Nutrition*

ELIZABETH A. LOCKWOOD, A.B., A.M., Dr.P.H., *Associate in Nutrition*

HELEN BAUGHMAN, S.B., S.M., *Instructor in Nutrition*

JAMES W. GODDARD, M.D., *Research Associate in Pathology*

MARY L. GLADISH, S.B., M.S.P.H., A.M., *Research Fellow in Nutrition*

FRIXOS C. CHARALAMPOUS, M.D., Sc.D. in Hyg., *Research Fellow in Nutrition*
 FARRINGTON DANIELS, JR., A.B., A.M., M.D., *Research Fellow in Nutrition*

A. BAIRD HASTINGS, S.B., Ph.D., S.D., *Hamilton Kuhn Professor of Biological Chemistry*

JAMES H. SHAW, S.B., S.M., Ph.D., *Assistant Professor of Dental Medicine*

Nutrition 1a. Basic Nutrition

Lectures. *Tuesdays, Thursdays, and Saturdays, 9-10, first period.* Dr. STARE and associates.

Credit 1.5 units.

This course deals with the fundamentals of the chemistry and physiology of nutrition. Among the subjects discussed are history and development of the science of nutrition, energy metabolism, and requirements; protein, mineral, and vitamin metabolism; acid-base balance of the body; physiology of digestion; intermediary metabolism; and vitamin-enzyme-hormone relationships.

Nutrition 2b. Public Health Nutrition

Lectures. *Mondays, Thursdays, and Saturdays, 9-10, second period.* Dr. STARE and associates.

Credit 1.5 units.

This course deals with the practical application of the science of nutrition to the problems of human nutrition, especially in the field of public health. Dietary requirements are considered in their relation to growth, development, disease, pregnancy, lactation, and the formation and maintenance of dental structures. Methods for establishing the minimum and optimum nutritional requirements, together with the problems of meeting these requirements, especially for low income groups are discussed. Methods of taking nutritional histories and the use of physical and chemical methods for evaluating the nutritional state of individuals or large groups are presented with special emphasis on nutritional surveys of population groups. The place of the nutritionist in the public health program is considered and various fields of a well rounded nutrition service are discussed as it correlates with the activities of health, welfare, educational, and industrial organizations. The principles of diet therapy are taught. The effect of various environmental, social, economic, and psychologic factors upon food habits is also studied as they influence the nutritional status of an individual or group of people. The consequences of nutritional deficiencies and the relation of optimum nutrition to national and international health and economy are discussed. The nutritional problems of relief, rehabilitation, famine, and other emergencies are dealt with. The relation of production, distribution, and preparation for the best use of foods is discussed, as are also the problems of food enrichment and fortification.

Nutrition 3c, 3d. Topics in Nutrition

Seminars. *Wednesdays, 9-10, third and fourth periods.* Dr. STARE, Dr. HEGSTED, Dr. GEYER, Dr. MANN.

Credit .5 unit in each period.

This course is designed to develop more fully the fundamental aspects of nutrition and metabolism covered in Nutrition 1a. Emphasis will be placed upon the biochemical aspects of protein, minerals, and the vitamins and their role in the body economy. Topics will be selected which are of particular interest to the students taking the course.

Prerequisites: Nutrition 1a and a course in Biochemistry.

Nutrition 4a, 4b, 4c, 4d. Journal Club

Seminars. *Tuesdays, 4-5, all four periods.* Dr. STARE and associates.

Credit .5 unit in each period.

Brief discussions of current literature in fundamental and applied nutrition. Admission limited and subject to approval of the instructor.

Prerequisite: Nutrition 1a or its equivalent.

Nutrition 20. Advanced Nutrition

Time (at least two half-days per week) and credit to be arranged. *Fall and spring terms.* Dr. STARE and associates.

Facilities are available for advanced work in nutrition along the lines of fundamental research in nutrition and applied nutrition in public health and medicine.

Admission limited and subject to approval of the instructor.

Prerequisites: Nutrition 1a and 2b or their equivalents.

DEPARTMENT OF PHYSIOLOGY

JAMES L. WHITTENBERGER, S.B., M.D., *Associate Professor of Physiology and Head of the Department*

STANLEY J. SARNOFF, A.B., M.D., *Assistant Professor of Physiology*

ESTHER HARDENBERGH, A.B., A.M., *Instructor in Physiology*

JAMES V. MALONEY, JR., M.D., *Research Fellow in Physiology*

BENJAMIN G. FERRIS, JR., A.B., M.D., *Research Fellow in Physiology*

Physiology 1a, b. Human Physiology and Its Application to Public Health

Lectures and demonstrations. *Tuesdays and Thursdays, 12-1, first and second periods.* Dr. WHITTENBERGER.

Credit 2 units.

A course in elementary human physiology, with particular emphasis on the systems and reactions of the body which are of major importance in public health problems. The course is designed primarily for students of sanitary engineering; it is recommended also to those who need a physiologic background for work in other fields. The course is prerequisite to Physiology 2d for those who lack adequate training in physiology.

Physiology 2d. Environmental Physiology

Lectures and conferences. *Tuesdays and Thursdays, 12-1, fourth period.*
Dr. WHITTENBERGER, Dr. FORBES.

Credit 1 unit.

The physical and chemical constituents of man's surroundings have definite and sometimes critical effects on his health and productivity. These effects can be observed universally, but are of special importance in industry, where large numbers of people are exposed to extremes of factors such as heat, barometric pressure, radiation, and atmospheric contamination.

One of the purposes of physiology instruction in public health is to provide information on the physical and mental reactions of man to his environment, as a basis for logical control of that environment by engineers and health officers.

Prerequisite: Physiology 1a, b or its equivalent.

Physiology 20. Research in Physiology

Properly qualified students will be given opportunities to work in the laboratory provided they can spend at least four months of undivided time.

DEPARTMENT OF PUBLIC HEALTH BACTERIOLOGY

JOHN C. SNYDER, A.B., M.D., *Professor of Public Health Bacteriology and Head of the Department*

EDWARD S. MURRAY, A.B., M.D., M.P.H., *Assistant Professor of Public Health Bacteriology*

ROLLA E. DYER, A.B., M.D., LL.D., *Visiting Lecturer on Public Health Bacteriology*

GEOFFREY EDSALL, M.D., *Visiting Lecturer on Public Health Bacteriology*

HERALD R. COX, A.B., Sc.D., Sc.D. (hon.), *Visiting Lecturer on Public Health Bacteriology*

HENRY S. FULLER, S.B., M.D., *Research Associate in Medical Entomology*

JAMES A. McCOMB, D.V.M., *Instructor in Public Health Bacteriology and Acting Director of the Division of Biologic Laboratories, Department of Public Health of Massachusetts*

JOHN M. NEWELL, A.B., Sc.D., *Instructor in Public Health Bacteriology and Senior Chemist, Division of Biologic Laboratories, Department of Public Health of Massachusetts*

J. HOWARD MUELLER, S.M., Ph.D., A.M. (hon.), *Charles Wilder Professor of Bacteriology and Immunology*

JOHN F. ENDERS, A.B., A.M., Ph.D., *Associate Professor of Bacteriology and Immunology*

MONROE D. EATON, A.M., M.D., *Associate Professor of Bacteriology and Immunology*

F. SARGENT CHEEVER, A.B., M.D., *Silas Arnold Houghton Assistant Professor of Bacteriology and Immunology*

WILLIAM A. HINTON, S.B., M.D., *Clinical Professor of Bacteriology and Immunology and Chief of Wassermann Laboratory, Department of Public Health of Massachusetts*

ROBERT A. MACCREADY, S.B., M.D., *Associate in Bacteriology and Immunology and Assistant Director of the Division of Communicable Diseases, Department of Public Health of Massachusetts*

The students in the School of Public Health may be considered in three categories as regards their previous training in bacteriology.

(a) *Students who have had extensive experience in bacteriology and who are familiar with the principles and standard methods.* The regularly scheduled courses in the School of Public Health are not designed for this group. However, several opportunities for advanced training are available. By arrangement with the Massachusetts Department of Public Health, students may study in the Wassermann Laboratory, in the Diagnostic Laboratory, and in the Biologic Laboratories. Courses in various aspects of sanitary bacteriology are given by the Department of Sanitary Engineering. Suitably qualified students may wish to take courses in the Harvard Medical School, such as Bacteriology A (section for graduate students); Bacteriology 32, Immunity and Serology; Bacteriology 33b, Clinical Bacteriology; Bacteriology 34, Viruses. These courses are described in detail in the official register of the Harvard Medical School.

(b) *Students whose background in bacteriology is negligible.* In this group are those students whose previous instruction in bacteriology was received many years before their matriculation in the School of Public Health, and whose activities have not brought them into contact with the developments in bacteriology. Also in this group are the students whose previous instruction in bacteriology was incomplete or unsatisfactory for various reasons. This group is advised to take a basic course in bacteriology and immunology such as

Bacteriology A, Harvard Medical School, or Sanitary Engineering 2a, b (Sanitary Bacteriology) given by the Department of Sanitary Engineering, or a similar course elsewhere.

Candidates for the degree of Master of Public Health who fall in this category are required to take a basic course in bacteriology before being granted their degrees.

(c) *Students who have had satisfactory instruction in bacteriology but who have not had extensive experience in the field.* Most of the candidates for the degree of Master of Public Health belong in this group. The regularly scheduled courses in bacteriology in the School of Public Health are designed primarily for these students.

Public Health Bacteriology 1a, b. Principles of Bacteriology and Immunology

Lectures and demonstrations. *Tuesdays and Thursdays, 9-10, first period; Tuesdays and Fridays, 9-10, second period.* Dr. SNYDER, Dr. MURRAY, and associates.

Credit 2 units.

This course considers the pathogenic bacteria, viruses, rickettsiae, and fungi with emphasis on recent developments of importance in public health. The principles of bacteriology and immunology are discussed in relation to the problems of public health. The course is recommended particularly for students who may be engaged in activities related to the field of communicable diseases.

Prerequisite: Medical Bacteriology.

Public Health Bacteriology 2d. Applied Immunology

Lectures and seminars. *Wednesdays, 2-5, fourth period.* Dr. ———.

Credit 1 unit.

The application of immunologic theory to the prevention and treatment of disease, as evidenced in the manufacture of serums, vaccines, and related products, is developed by lectures, discussions, and laboratory demonstrations. The content of the course is dependent upon the training and interests of students.

Public Health Bacteriology 3c, 3d. Laboratory Tests for Syphilis

Conferences and laboratory work. Time and credit to be arranged. Dr. HINTON.

A short course in theoretical and practical aspects of serologic tests for syphilis is open to selected students at the Wassermann Laboratory of the Massachusetts Department of Public Health. The relation of laboratory meth-

ods to epidemiologic studies and to programs of control receive special consideration.

This course is intended for students who desire advanced instruction in techniques of serologic tests and darkfield examinations.

Public Health Bacteriology 11b. Public Health Laboratory Procedures

Lectures, seminars, and laboratory exercises. *Tuesdays and Thursdays, 2-5, Fridays, 10-11, second period.* Dr. MURRAY and associates.

Credit 2 units.

This course considers briefly the standard laboratory bacteriologic techniques and includes recent methods for study of representative rickettsiae and viruses. It does not offer technical training of the sort needed by persons who will be engaged primarily in laboratory work. It is rather designed to familiarize the student with various types of diagnostic laboratory tests. The factors involved in collection and transportation of specimens, the technique of tests, and interpretation of results receive particular emphasis. The course is intended for students whose activities in the field of public health are likely to involve them in various relations with public health laboratories.

Techniques involved in serology and bacteriology (including examination of milk, water, and shellfish) are demonstrated, and short exercises illustrate the principles involved. In the portion of the course devoted to rickettsial and viral laboratory techniques, the students themselves perform certain of these procedures in detail; for example, inoculation of mice by intracerebral and intravenous routes and inoculation of embryonated hens' eggs by the yolk sac, allantoic, and chorioallantoic routes. Other procedures include neutralization tests, toxin tests, and the agglutination of red blood cells by viruses.

Limited to twenty students who have completed Public Health Bacteriology 1a.

Public Health Bacteriology 12a, b, c, d. Advanced Laboratory Work in Applied Immunology

Laboratory work at the Massachusetts Biologic Laboratories. Time and credit to be arranged. Dr. ———.

Opportunities are offered to properly qualified students for study of and training in the manufacture of biologic products or for original work in problems related to these processes at times to be arranged individually.

Public Health Bacteriology 13c. Rickettsial Diseases

Lectures and laboratory exercises. *Wednesdays and Fridays, 2-5, third period.* Dr. SNYDER, Dr. MURRAY.

Credit 2 units.

This course considers the rickettsiae of epidemic and murine typhus, Rocky

Mountain spotted fever, tsutsugamushi disease, and Q fever. Topics which are included: properties of rickettsiae; their isolation and identification in the laboratory; vectors and reservoirs; prevention, control, and treatment of human rickettsial infections. Students perform standard procedures for isolation of rickettsiae and for diagnosis of these infections by various serologic tests. The course is intended for students who plan to do research on rickettsiae either in the laboratory or in the field.

Limited to ten students who have had a satisfactory background in the laboratory aspects of bacteriology.

Prerequisites: Public Health Bacteriology 1a, b and 11b.

Public Health Bacteriology 20. Research

Properly qualified students may do research in the laboratories of the Department. Time and credit to be arranged with the head of the Department.

DEPARTMENT OF PUBLIC HEALTH PRACTICE

HUGH R. LEAVELL, S.B., M.D., Dr.P.H., *Professor of Public Health Practice and Head of the Department*

FRANZ GOLDMANN, M.D., *Associate Professor of Medical Care*

LEONID S. SNEGIREFF, M.D., M.P.H., Dr.P.H., *Associate Professor of Cancer Control*

C. WALTER CLARKE, A.B., A.M., M.B., Ch.B., *Clinical Professor of Public Health Practice and Executive Director, American Social Hygiene Association*

VLADO A. GETTING, A.B., M.D., Dr.P.H., *Clinical Professor of Public Health Practice and Commissioner of Public Health, Department of Public Health of Massachusetts*

ALFRED L. FRECHETTE, M.D., M.P.H., *Assistant Professor of Public Health Practice and Health Officer, Town of Brookline, Massachusetts*

ERICH LINDEMANN, Ph.D., M.D., *Lecturer on Mental Health*

FREDERICK L. W. RICHARDSON, JR., S.B., Ph.D., *Lecturer on Mental Health*

HELEN L. ROBERTS, A.B., M.D., M.P.H., *Associate in Public Health Practice*

FRANCES M. FRAZIER, S.B., M.P.H., *Associate in Public Health Nursing*

BERYL J. ROBERTS, S.B. in Ed., M.Ed., M.P.H., *Associate in Health Education*

ALTON S. POPE, A.B., M.D., Dr.P.H., *Instructor in Public Health Practice and Deputy Commissioner, Department of Public Health of Massachusetts*

ROY F. FEEMSTER, A.B., M.D., M.P.H., *Instructor in Public Health Practice and Director, Division of Communicable Diseases, Department of Public Health of Massachusetts*

HERBERT L. LOMBARD, A.B., M.D., M.P.H., *Instructor in Public Health Practice and Director, Division of Cancer and Other Chronic Diseases, Department of Public Health of Massachusetts*

NORBERT A. WILHELM, S.B., M.D., *Instructor in Public Health Practice and Director, Peter Bent Brigham Hospital*

ERNEST M. MORRIS, A.B., M.D., C.M., M.P.H., *Instructor in Public Health Practice and Director of Public Health, City of Newton, Massachusetts*

ROBERT E. ARCHIBALD, M.D., M.P.H., *Instructor in Public Health Practice and Deputy Commissioner, Department of Public Health of Massachusetts*

ARTHUR E. BURKE, S.B., M.D., M.P.H., *Instructor in Public Health Practice and District Health Officer, Department of Public Health of Massachusetts*

LOREN D. MOORE, M.D., *Instructor in Public Health Practice and First Assistant to the Commissioner, Department of Public Health of Massachusetts*

THEODORE ROSENTHAL, S.B., M.D., *Lecturer on Public Health Practice and Director, Bureau of Social Hygiene, New York City Department of Health*

SIDNEY COBB, S.B., M.D., *Instructor in Public Health Practice and Director, Nashoba Associated Boards of Health*

FRANKLYN B. AMOS, M.D., M.P.H., *Instructor in Public Health Practice*

HENRY H. BREWSTER, A.B., M.D., *Instructor in Mental Health*

LEMOYNE WHITE, A.B., M.D., *Instructor in Mental Health*

LUCY G. WHITE, A.B., A.M., *Instructor in Public Health Nursing*

DEAN ROBERTS, A.B., M.D., M.P.H., *Instructor in Medical Care*

DAVID F. ABERLE, A.B., Ph.D., *Research Fellow in Mental Health*

RAYMOND FAGAN, A.B., D.V.M., M.P.H., *Research Fellow in Public Health Practice*

SUZANNE T. VAN AMERONGEN, M.A., M.D., *Research Fellow in Mental Health*

WARREN T. VAUGHAN, JR., S.B., M.D., *Research Fellow in Mental Health*

JAMES M. DUNNING, A.B., D.D.S., M.P.H., *Dean, Harvard School of Dental Medicine*

STANLEY COBB, A.B., M.D., *Bullard Professor of Neuropathology*

PAUL K. LOSCH, D.D.S., *Assistant Professor of Clinical Dentistry*

SHIELDS WARREN, A.B., M.D., *Professor of Pathology at the New England Deaconess Hospital*

F. WILLIAM MARLOW, JR., S.B., M.D., *Associate in Medicine*

Public Health Practice 1a. Community Organization for Health Service

Lectures and discussions. *Wednesdays, 9-11, Fridays, 11-1, first period.*

Credit 2 units.

In working with people the health worker should understand the basic principles of how they live together in families and in other groups; their basic motivations and drives and the methods used in organizing themselves to perform desired functions. Lectures and discussions will be based on available knowledge in group psychology, group dynamics, and community organization. There will also be discussions of the basic principles of organization and the "laws" of learning and methods of ascertaining attitudes and opinions. Forms and purposes of governmental and voluntary organization will be considered with particular attention to interrelations at various governmental levels—federal, state, and local. Legal basis of health work and basic problems of financing health services will be discussed. The use of surveys and continuing evaluation of health services will be presented to show the importance of community diagnosis in the health program. A typical community program for disease control will be used to illustrate the essentiality of co-operation of various forces in the community to achieve a specific purpose.

Public Health Practice 2b. Principles of Public Health Practice

Seminars and conferences. *Tuesdays and Thursdays, 11-1, second period.* Dr. LEAVELL and associates.

Credit 2 units.

Organization of governmental and voluntary health organizations at the various governmental levels is discussed. The principles of administrative organization, personnel management, financing of health services, and public health law are presented as the basis of public health practice.

Public Health Practice 3c, d. Problems in Public Health Practice

Seminars and field study. *Thursdays, 2-4, third and fourth periods.* Dr. LEAVELL, Dr. GETTING, Dr. FRECHETTE.

Credit 2 units.

The case method of presenting problems in the field of public health administration is employed, using situations from field experience to illustrate problems and to serve as basis for discussion of applied public health practice. Students are assigned problems or situations to study and report upon to the class. Such problems include those encountered in the work of state and local health departments associated for field training purposes with the School of Public Health, or which are found in surveys that may be undertaken by staff and students.

Public Health Practice 4b. Organization of Medical Care

Lectures and discussions. *Tuesdays and Fridays, 2-4, second period.* Dr. GOLDMANN.

Credit 2 units.

An orientation course on the development and present state of medical-care programs organized under the auspices of public and voluntary agencies. Discussion of the resources in medical and related personnel, and in hospitals, clinics, and custodial institutions; of the utilization of existing services and the cost of medical care; and of the basic methods of organizing and paying for professional and hospital services. Description of tax-supported medical-care programs administered by local, state, and federal agencies and of voluntary prepayment plans of various types.

Public Health Practice 5c, d. Administration of Medical-Care Programs

Seminars, field observations, and exercises. *Wednesdays, 10-12, Saturdays, 9-11, third period; Wednesdays and Fridays, 9-11, fourth period.* Dr. GOLDMANN.

Credit 4 units.

An advanced seminar enlarging on the basic subject matter presented in Public Health Practice 4b, Organization of Medical Care. Designed primarily for students who wish to specialize in medical care. Discussion of the basic principles and problems of sound administrative organization of medical-care programs. Study of the administrative practices actually followed by public agencies in charge of tax-supported services and by voluntary agencies administering prepayment plans for hospital care, physicians' service, or both. Discussion of the techniques of surveying and appraising medical-care needs and medical-care programs. Analysis of the experience gained in the operation of various types of tax-supported and insurance plans. Visits to selected medical-care facilities and to administrative agencies, public and voluntary. Supervised studies of typical organizations.

Prerequisite: Public Health Practice 4b.

Public Health Practice 6a, b. Control of Cancer

Lectures and discussions. *Fridays, 9-11, first period; Thursdays, 2-4, second period.* Dr. SNEGIREFF.

Credit 2 units.

Cancer control is discussed from the viewpoint of the administrator. Authorities in the various aspects of the cancer control program discuss specific phases of the problem. Discussion periods are arranged to supplement lectures and to give the administrator a balanced view of the cancer field in clinical, research, and service aspects.

Public Health Practice 7c, d. Cancer Control Administration

Seminars and field study. Time and credit to be arranged. Dr. SNEGIREFF.

Discussion of advanced problems in administration of cancer control programs of official and voluntary health agencies at national, state, county, and community levels.

Observation and field study in cancer diagnostic, combined diagnostic, and therapeutic clinics, cancer detection clinics, cancer hospitals, related activities, and facilities. This course is designed primarily for cancer control officers.

Public Health Practice 8b. Psychosocial Problems

Lectures and seminars. *Fridays, 11-1, second period.* Dr. LINDEMANN and associates.

Credit 1 unit.

This course is concerned with the study of abnormal behavior resulting in social problems and with the mechanisms which produce abnormal mental reactions. Methods of handling these problems through community resources are discussed.

Public Health Practice 9c, d. Mental Health Problems

Seminars. *Tuesdays, 2-4, third and fourth periods.* Dr. LINDEMANN.

Credit 2 units.

A series of discussions dealing with factors in individual development, family context, and social structure of the community which are relevant to emotional disturbances. Mental health problems, such as control of delinquency, mental disease, psychoneurosis, and psychosomatic disorders will be reviewed, both from the point of view of the clinic and of community resources. An effort then will be made to outline a program for community mental health, including the problems involved in the efforts of public agencies and voluntary groups.

Public Health Practice 10b. Public Health History

Seminars. *Saturdays, 11-12, second period.* Dr. LEAVELL, Dr. FAGAN, and associates.

Credit .5 unit.

The growth of the modern health movement, particularly in the Anglo-Saxon countries is discussed. Cultural, social, and economic forces that have influenced the movement are studied in relation to the evolution of the science of public health.

Public Health Practice 11a. Control of Tuberculosis

Lectures and field exercises. *Tuesdays and Thursdays, 2-4, first period.* Dr. POPE.

Credit 2 units.

Control measures applicable to public health practice are discussed. The approach is that of the administrator rather than the specialist, although specialists in various aspects of tuberculosis control will lead some of the discussions. Field trips include visits to hospitals, mass chest survey projects, tuberculosis clinics, etc.

Public Health Practice 12d. Venereal Disease Control

Lectures, demonstrations, and discussions. *Mondays and Thursdays, 9-11, Tuesdays, 10-12, fourth period.* Dr. CLARKE.

Credit 3 units.

This course presents, first, the basic medical data regarding syphilis, gonorrhea, chancroid, granuloma inguinale, and lymphogranuloma venereum as communicable diseases, and second, their epidemiology, prevention, and administrative control. During the first part of the course the subject matter is presented by means of lectures, motion pictures, slides, and clinical demonstrations. The second part is devoted to lectures and class discussions of practical problems involved in the public health control of venereal diseases.

Clinics

Clinical instruction in syphilis at the Peter Bent Brigham Hospital. *Wednesdays, 6-8 p.m., and Thursdays, 1-3 p.m.* Dr. MARLOW.

Credit units according to amount of work done.

These clinics are available during the entire year to all public health students; those who are planning to do specialized public health work in this field are expected to spend considerable time in them and to participate in the work.

Clinical instruction in gonorrhea at the Peter Bent Brigham Hospital. *Mondays through Saturdays, 8:30-11:30 a.m.*

Credit units according to amount of work done.

These clinics, while especially designed for students whose major interest is the control of the venereal diseases, are also available to other students.

Laboratory Tests for Syphilis. Dr. HINTON. See page 59.

Public Health Practice 13c, d. Health Education Problems

Seminars and demonstrations. *Wednesdays, 2-4, third period; Fridays, 2-4, fourth period.* Miss ROBERTS.

Credit 2 units.

Discussion of the educational and psychologic principles involved in health education and community organization. Projects demonstrating principal techniques in health education through various mediums, such as printed matter, radio, newspapers, and exhibits.

Public Health Practice 14d. Hospital Organization and Community Relationships

Lectures and field exercises. *Mondays and Wednesdays, 11-1, fourth period.* Field trips to be arranged. Dr. WILHELM.

Credit 2 units.

This course is designed to give the health officer basic information on the organization and functions of the typical hospital and, especially, on its relationship to the various agencies engaged in health activities and to the community as a whole. No attempt is made to develop hospital administrators; therefore emphasis is on fundamental problems rather than on the details of hospital administration.

This course will not be given for less than ten students.

Prerequisite: Public Health Practice 4b.

Public Health Practice 15c and 15d. Dental Public Health Practice

Conferences, seminars, and field exercises. Time and credit to be arranged. Dr. DUNNING and associates.

Graduates in dentistry who are accepted as candidates for the degree of Master of Public Health are required to take the basic courses which are prescribed for that degree. They are assumed to have had adequate training and experience in all phases of clinical dentistry but as additional experience, opportunities are provided in the Forsyth Infirmary and in the Harvard School of Dental Medicine.

Opportunities for field work in public health dentistry are available.

Public Health Practice 16c, d. Public Health Nursing

Seminars. *Tuesdays, 9-10, third and fourth periods.* Miss FRAZIER.

Credit 1 unit.

Public health nursing is discussed in relation to community needs and the total public health program. Emphasis is placed on administration of nursing services with reference to the activities of nurses in both official and voluntary agencies and their relationships with other workers in the health team.

Public Health Practice 17c. Morbidity and Medical-Care Statistics

Seminars. *Mondays, 2-4, third period.* Dr. GOLDMANN, Dr. DOERING.

Credit 1 unit.

This course, given jointly with the Department of Biostatistics (see Biostatistics 3c), provides for study of statistical methods suitable for determining the amount and severity of illness, the need for resources, and the effectiveness of medical-care programs.

Prerequisites: Public Health Practice 2b and 4b; Biostatistics 1a, b; or their equivalents.

Public Health Practice 18d. Social Work in Health Agencies

Seminars. *Thursdays, 11-1, fourth period.* Miss RICE.

Credit 1 unit.

Review of the development of the social concept in medical care and of the reasons for the growth of social work as a part of medical care. Orientation is given to social work concepts, principles, and methods as well as to the functions of social workers in hospitals, health departments, public welfare, and voluntary health agencies. The relationships of physician, nurse, nutritionist, and health educator will be presented and differences in their functions analyzed. Half-day field trips will be made by arrangement.

Public Health Practice 19c, d. Veterinary Public Health Practice

Seminars. Time and credit to be arranged. Dr. FAGAN.

Discussion of advanced problems of veterinary public health practice, with particular reference to integration in the program of official and voluntary health agencies.

Public Health Practice 20. Research

Advanced students are offered the opportunity to undertake special studies in the practice of organized health services. The student must have completed Biostatistics 1a, b and Public Health Practice 1a and 4b before registering for this work.

FIELD STUDY IN PUBLIC HEALTH PRACTICE**Public Health Practice 30b and 30c**

Field study in local, district, and state health departments. *Jan. 30-Feb. 4 and April 3-8.*

Credit 1 unit each.

Opportunity to spend a continuous period in a well operated local or district health department observing activities of the various subdivisions, work of the health officer, and relationships with the community, with discussions and reports. Only a few students can be accommodated in any one department at a given time. Specific arrangements for this course must be made well in advance of the dates scheduled.

Public Health Practice 31b, 31c, and 31d

Field Study—Medical-Care Agencies. Time and credit to be arranged.

Planned visits to voluntary and official agencies concerned with provision of medical care to various segments of the population, discussion of observations, and reports. Offered in conjunction with Public Health Practice 5c, d.

Public Health Practice 32d

Field Study — Venereal Disease Control. Time and credit to be arranged.

Field study in the Bureau of Social Hygiene, City of New York Department of Health. Dr. CLARKE, with the assistance of officers of the New York City Department of Health, Bureau of Social Hygiene.

One week field trip to state and city health departments under supervision of Dr. CLARKE.

Public Health Practice 33c, d. Public Health Nursing

Field Study. Hours and credit to be arranged.

Opportunity is given to physicians and nurses to study and evaluate nursing services in a community. Students registering for Public Health Practice 33c,d must also register for Public Health Practice 16c, d.

Public Health Practice 34d. Conferences in Hospital Administration

Fourth period. Time and credit to be arranged. Dr. WILHELM.

This course is designed for students who elect Public Health Practice 14d and for certain others who are interested in attending daily administrative conferences at the Peter Bent Brigham Hospital. Limited to five students.

DEPARTMENT OF SANITARY ENGINEERING

GORDON M. FAIR, S.B., S.M., *Abbot and James Lawrence Professor of Engineering, Gordon McKay Professor of Sanitary Engineering, and Head of the Department*

EDWARD W. MOORE, A.B., A.M., *Associate Professor of Sanitary Chemistry*

HAROLD A. THOMAS, JR., S.B., S.M., S.D., *Associate Professor of Sanitary Engineering*

SHIH L. CHANG, M.D., Dr.P.H., *Associate Professor of Sanitary Biology*

J. CARRELL MORRIS, S.B., A.M., Ph.D., *Assistant Professor of Sanitary Chemistry*

M. NOËL LOMBARD, S.B., *Assistant in Sanitary Biology*

Sanitary Engineering 1a. Principles of Sanitation

Lectures and demonstrations. *Tuesdays and Thursdays, 10-12, first period.* Professor FAIR, Associate Professor MOORE, DR. CHANG.

Credit 2 units.

This course is designed to cover the principles of sanitation that underlie the control of the environment by engineering means for the purpose of preserving and promoting the public health. The topics considered include: Water

Supply—collection, purification, and distribution; Sewerage—collection, treatment, and disposal; Analysis of Water and Sewage—physical, chemical, and biological; Garbage and Refuse—collection and disposal; Housing; Rural Sanitation; Sanitation of Schools, Camps, and Bathing Places; Food Sanitation—production, preservation, distribution, and preparation; Milk Sanitation; Shellfish Sanitation; Arthropod and Rodent Control.

Sanitary Engineering 2a, b. Sanitary Bacteriology

Lectures and laboratory. *Summer term, first half, Mondays through Fridays, hours to be arranged; Tuesdays and Thursdays, 1-5, first and second periods.* Dr. CHANG.

Credit 4 units.

Morphology, physiology, cultivation, and identification of bacteria. Effect of physical, chemical, and antibiotic agents on bacteria. Mechanism and dynamics of disinfection and bacteriostasis. Biochemical study of enteric bacteria. Immunity and antigen and antibody reactions. Bacteriology, bacteriological analysis, and sanitary control of air, dairy products, food, eating establishments, shellfish, swimming pools, and water. Microbiology of sewage and sewage treatment.

This is the same course as Engineering 274a.

Sanitary Engineering 3c, d. Sanitary Parasitology

Lectures and laboratory. *Tuesdays, Thursdays, and Saturdays, 9-10, Tuesdays, 1-5, third and fourth periods.* Dr. CHANG.

Credit 4.5 units.

Life cycle and ecology of animal parasites of public health significance and medical entomology, with special emphasis on environmental control.

This is the same course as Engineering 274b.

The following courses of instruction offered in the Department of Engineering of the Graduate School of Arts and Sciences are open to properly qualified students:

Engineering 270a. Hydrology and Hydraulics of Water Supply and Waste Disposal. Professor FAIR.

Engineering 270b. Engineering Principles of Water and Sewage Treatment. Professor FAIR.

Engineering 271a, b. Chemistry of Water and Sewage Treatment. Associate Professor MOORE.

Engineering 272a, b. Physical and Analytical Chemistry as Applied to Water and Sewage. Assistant Professor MORRIS.

- Engineering 273a. Hydrology and Hydraulics of Water Supply and Drainage. Associate Professor THOMAS.
- Engineering 275a. Industrial Water Supply and Waste Disposal. Associate Professor MOORE.
- Engineering 275b. Limnology and Stream Sanitation. Associate Professors MOORE and THOMAS.
- Engineering 276a. Organic and Biological Chemistry as Applied to Water and Sewage. Assistant Professor MORRIS.
- Engineering 276b. Instrumental Techniques in Water and Sewage Analysis. Assistant Professor MORRIS.

DEPARTMENT OF TROPICAL PUBLIC HEALTH

- JAMES S. SIMMONS, S.B., M.D., Ph.D., Dr.P.H., S.D. (hon.), *Professor of Public Health and Acting Head of the Department*
- GEORGE C. SHATTUCK, A.B., M.D., A.M. (hon.), *Clinical Professor of Tropical Medicine, Emeritus*
- DONALD L. AUGUSTINE, S.B., Sc.D., Sc.D. (hon.), A.M., (hon.), *Professor of Tropical Public Health*
- QUENTIN M. GEIMAN, S.B., S.M., Ph.D., *Assistant Professor of Tropical Public Health*
- THOMAS H. WELLER, A.B., S.M., M.D., *Assistant Professor of Tropical Public Health*
- ALBERT A. HORNOR, A.B., M.D., *Instructor in Tropical Public Health*
- RUTH A. THOMAS, A.B., A.M., M.P.H., *Research Associate in Tropical Public Health*
- JUSTIN M. ANDREWS, Ph.B., Sc.D., *Visiting Lecturer on Tropical Public Health*
- SIR GORDON COVELL, M.B., B.S., M.D., D.P.H., *Visiting Lecturer on Tropical Public Health*
- PAUL F. RUSSELL, A.B., M.D., M.P.H., *Visiting Lecturer on Tropical Public Health*
- EDWARD I. SALISBURY, M.D., *Visiting Lecturer on Tropical Public Health*
- FRED L. SOPER, A.B., S.M., M.D., Dr.P.H., *Visiting Lecturer on Tropical Public Health*

Tropical Public Health 1b. Parasitology

Lectures, laboratory exercises, and demonstrations. *Tuesdays, Thursdays, and Saturdays, 10-1, November 22-December 22.* Dr. AUGUSTINE, Dr. GEIMAN, Dr. WELLER, and associates.

Credit 1.5 units.

This course is designed primarily for students in the School of Medicine. It is open, however, to a limited number of students registered in the School of Public Health who wish to review the subject. The important helminth and protozoan parasites of man are considered with reference to their geographic distribution, identification, mode of transmission, pathogenesis, immune reactions, and methods for prevention and control. Clinical aspects and chemotherapy of parasitic diseases are discussed. Emphasis is given to methods of laboratory diagnosis. Arthropods of parasitologic importance are briefly surveyed with special consideration of insects related to human disease. Admission subject to the approval of the head of the Department.

Tropical Public Health 2c, d. Conservation of Health in Tropical Countries

Lectures, laboratory exercises, and demonstrations. *Tuesdays and Thursdays, 2-5, third and fourth periods.* Dr. AUGUSTINE and associates.

Credit 4 units.

This course will deal with the important health hazards of the tropical regions of the earth. It will be concerned with all the numerous factors which combine to exert a deleterious effect on human welfare and efficiency in tropical countries. These include climate, environment, food supply, density of population, social and economic conditions, and the more serious diseases of the tropics. The clinical aspects of tropical medicine will not be neglected, but the main emphasis will be placed on the recognition of diseases and their prevention or control. Special consideration will be given to recent advances in our knowledge of the insect-borne diseases, including their distribution and incidence, host-parasite relations, the diagnostic procedures available for their identification, and the best methods available with which to protect both the individual and the community against their attack.

Tropical Public Health 3d. Administration of Tropical Public Health Programs

Conferences and seminars. *Wednesdays, 11-1, fourth period.* Staff of the Department.

Credit 1 unit.

This is an informal course designed to acquaint the student with administration of public health programs in tropical countries. Students will participate in discussions dealing with actual health conditions and problems of major importance in representative tropical regions. Careful consideration will be given to the possibility of developing more effective tropical health programs through application of administrative techniques adapted to the

needs of different people and climates. Admission limited and subject to the approval of the head of the Department.

Prerequisite: Tropical Public Health 2c,d or its equivalent.

Tropical Public Health 4d. International Aspects of Tropical Public Health

Conferences. *Two hours, once a week.* Time to be arranged. Dean SIMMONS.

Credit 1 unit.

These conferences will be available to a small group of selected students interested in the broader aspects of tropical public health, with special reference to specific problems that have an important bearing on international health. Conferences will be informal and the students will be expected to take an active part in all of the discussions, which will be limited to international problems of current interest.

Tropical Public Health 20. Research

Opportunity is offered to qualified students to work on problems in tropical public health under the supervision of the staff. An extensive number of parasites of medical importance are maintained for studies on metabolism, nutrition, host-parasite relations, and chemotherapy. Arrangements may be made for students to work in laboratories of hospitals situated within the tropics or to cooperate in organized field investigations.

STUDENTS 1948-49

CANDIDATES FOR THE DEGREE OF DOCTOR OF PUBLIC HEALTH

Abhayaratne, Osmond E. R., L.M.S., L.R.C.P. & S., L.R.F.P. & S., D.P.H., M.P.H.	Colombo, Ceylon
Bill, Audrey A., A.B., M.D., M.P.H.	Wayland, Mass.
Domke, Herbert R., S.B., M.D.	Chicago, Ill.
Mangay, Amansia, M.D., M.P.H.	Manila, P. I.
Peatfield, Norman E., A.B., M.D.	South Hamilton, Mass.

CANDIDATES FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

Albrecht, Robert M., A.B., M.D.	Sand Lake, N. Y.
Alvis, Harry J., S.B., M.D.	McMinnville, Oregon
Ayres, John C., S.B., M.D.	Brighton, Mass.
Baker, Mary C., A.B.	Boston, Mass.
Blood, Benjamin D., D.V.M.	Poneto, Ind.
Collazos, Carlos, M.D.	Lima, Peru
Epstein, Monroe, A.B., M.D.	Burbank, Calif.
Esguerra, Tagumpay R., M.D.	Manila, P. I.
Fagan, Raymond, A.B., D.V.M.	Watertown, Mass.
Fiore, Autino, A.B., M.D.	Cambridge, Mass.
Gatmaitan, Clemente S., M.D., M.P.H.	Manila, P. I.
Hall, R. Mildred, S.B.	New York, N. Y.
Hapney, Cozette, S.B.	Ft. Collins, Colo.
Hardinge, Mervyn G., S.B., M. D.	Loma Linda, Calif.
Herron, John T., A.B., M.D.	Little Rock, Ark.
Hines, Martin P., D.V.M.	Greensboro, N. C.
Hood, Thomas R., A.B., M.D.	Winfield, Kan.
Hooper, Francis W., A.B., M.D.	Quincy, Mass.
Hurley, Daniel J., S.B., M.D.	Carson City, Nev.
Israel, Hyman, S.B., D.D.S.	Brooklyn, N. Y.
Jope, Clifford H., S.B., M.D.	San Francisco, Calif.
Kotani, Shintaro, M.D.	Tokyo, Japan
Leone, George E., S.B., M.D.	Niagara Falls, N. Y.
Lieben, Jan, M.B., Ch.B.	New York, N. Y.
Lyons, William F., D.V.M., M.D.	Coshocton, Ohio
Marasinghe, Edwin, L.M.S.	Seeduwa, Ceylon
Mashayekhi, Mohamed B., M.D.	Tehran, Iran
Mello, Henry G., A.B., M.D.	Alameda, Calif.
Moore, Loren D., M.D.	Wellesley Hills, Mass.
Panigrahi, Radha G., M.B., B.S.	Orissa, India

CANDIDATES FOR THE DEGREE OF MASTER OF PUBLIC HEALTH (*continued*)

Pease, Clifford A., Jr., S.B., M.D.	Burlington, Vt.
Quirós, Carlos A., M.D.	Chimbote, Peru
Reynolds, William E., S.B., M.D.	Burnett, Wis.
Rice, Robert G., A.B., S.B., M.D., C.M.	Halifax, N. S.
Shih, Mou-Nien, M.D.	Shanghai, China
Simmons, Ingalls H., A.B., M.D.	Worcester, Mass.
Spendlove, George A., A.B., A.M., M.D.	Richfield, Utah
Susich, Mary, S.B.	Canton, Ill.
Tech, Diosdado M., M.D.	Rizal, P. I.
Thomson, Ann M., S.B.	Milton, Mass.
Togba, Joseph N., A.B., M.D.	Liberia, W. Africa
Tong, Wen-Ming, M.D.	Kwangtung, China
Whayne, Tom F., A.B., M.D.	Washington, D. C.
Wick, Homer C., Jr., M.D.	Washington, D. C.
Yieh, William Y. T., M.D.	Kiangsu, China

CANDIDATES FOR THE DEGREE OF DOCTOR OF SCIENCE IN HYGIENE

Bevis, Marion L., A.B., S.M.	Lakeland, Fla.
Boyd, Harriet M., Ph.B., S.M., S.M.	Attleboro, Mass.
Charalampous, Frixos C., M.D.	Ktima-Papho, Cyprus
Hardenbergh, Esther, A.B., A.M.	Minneapolis, Minn.
Stalker, William W., A.B., S.M., A.M.	Louisville, Ky.

CANDIDATES FOR THE DEGREE OF MASTER OF SCIENCE IN HYGIENE

Mathur, Krishna K., M.B., B.S., D.P.H.	Agra, U. P., India
Pauls, Frank P., A.B.	Anchorage, Alaska
Perkins, Ida V., A.B.	Atlanta, Ga.

FULL-TIME SPECIAL STUDENTS

Barrero, Jorge B., M.D.	Cochabamba, Bolivia
Barrios, Oswaldo, M.D.	Caracas, Venezuela
Borjas, Ernesto A., S.B., M.D.	Honduras, C. A.
Ciubra, Klaudiusz, M.D.	Krakow, Poland
Cox, Harold L.	Weymouth, Mass.
Flores, Marina	Guatemala City, Guatemala
Gándara, Roberto, Ph.B., M.D.	Guatemala City, Guatemala
Hughes, John P. W., M.R.C.S., L.R.C.P., M.B., B.S., D.P.H., M.D.	Richmond, Surrey, England
Kahn, Stanley S., A.B., M.D.	Gadsden, Ala.
Shoib, Mohamed O., M.B., B.Ch., M.P.H.	Cairo, Egypt
Tom, John Y. S., A.B., S.M.	Honolulu, Hawaii
Vilanova, José R., M.D.	San Salvador, El Salvador

PART-TIME SPECIAL STUDENTS

Allard, Vincent J., M.D.	Jadotville, Belgian Congo
Batchelder, Walter E., S.B., M.D.	N. Scituate, R. I.
Belko, John S., A.B.	Medford, Mass.
Benson, Robert G.	Boston, Mass.
Cobb, Sidney, S.B., M.D.	Fort Devens, Mass.
Cruz Ríos, Maria V., S.B. in Ed.	Rio Piedras, Puerto Rico
Duggan, George L., S.B., M.D.	Lowell, Mass.
Eddy, Frances E., S.B.	Charleston, S. C.
Farrisey, Ruth M., S.B.	Lawrence, Mass.
Foster, Augusta F., A.B., M.D.	Boston, Mass.
Gladish, Mary L., S.B., M.S.P.H., A.M.	Lawrenceburg, Tenn.
Glenn, Anne B., A.B.	Eufaula, Ala.
Gouzoule, Katherine, B.S.E., Ed.M.	Roxbury, Mass.
Guerra, Angel, M.D.	Havana, Cuba
Hardinge, Margaret O., A.B.	Loma Linda, Calif.
Jones, Fannie E., S.B.	Lambert, Miss.
Jordan, Maryrose A., S.B.	Andover, Mass.
Kammeier, Clarence, S.B.	Needham, Mass.
McBurney, Alice M., A.B.	Pawtucket, R. I.
McCracken, James M., Jr., S.B.	Wellesley, Mass.
Macri, Rosa C., S.B.	Portland, Maine
Malinsky, Alberta D., S.B.	Cambridge, Mass.
Miller, Norma E., A.B.	Cambridge, Mass.
Nichols, Margaret J., S.B., A.M.	San Diego, Calif.
Pennell, Walter J., A.B., M.D.	Wakefield, Mass.
Pennine, William A., D.M.D.	Providence, R. I.
Ronan, Mary I., A.B.	Cambridge, Mass.
Sherwin, Herbert, S.B., M.D.	Cambridge, Mass.
Thomas, Gladys S., S.B.	Charlotte, N. C.
Weisz, Edith, Dr. Chem.	Turin, Italy
Welch, Florence A., A.B.	Cambridge, Mass.
Wood, William W., S.B., M.B.A.	Norwell, Mass.
Youland, Dorothy M., S.B.	Boston, Mass.

DEGREES

On March 14, 1949, the following degree was conferred:

DOCTOR OF PUBLIC HEALTH

Osmond Edwin Randolph Abhayaratne, L.M.S. (*Ceylon Medical Coll.*) 1929,
L.R.C.P. & S. and L.R.F.P. & S. (*Royal Coll. of Surgeons and Physicians*,

Edinburgh) 1931, D.P.H. (*Univ. of Edinburgh*) 1932, M.P.H. (*Harvard Univ.*) 1938

Thesis: Infant Mortality in Ceylon.

Special Field: Maternal and Child Health.

On June 23, 1949, the following degrees were conferred:

DOCTOR OF PUBLIC HEALTH

Amansia S. Mangay, M.D. (*Univ. of Philippines*) 1939, M.P.H. (*Vanderbilt Univ.*) 1948

Thesis: Prematurity and Infant Mortality in Tennessee

Special Field: Maternal and Child Health

DOCTOR OF SCIENCE IN HYGIENE

(in the field of Nutrition)

Frixos Costas Charalampous, M.D. (*Univ. of Athens*) 1946

Thesis: Metabolic and Nutritional Studies in Experimental Alloxan Diabetes

MASTER OF PUBLIC HEALTH, *Magna cum Laude*

Monroe Epstein, A.B. (*Univ. of California*) 1943, M.D. (*ibid.*) 1945

Raymond Fagan, A.B. (*New York Univ.*) 1935, D.V.M. (*Cornell Univ.*) 1939

MASTER OF PUBLIC HEALTH, *cum Laude*

Robert Michael Albrecht, A.B. (*Holy Cross Coll.*) 1938, M.D. (*Albany Medical Coll.*) 1942

John Cecil Ayres, S.B. (*Massachusetts State Coll.*) 1941, M.D. (*Boston Univ.*) 1943

Autino Fiore, A.B. (*Tufts Coll.*) 1938, M.D. (*ibid.*) 1942

Clifford Henry Jope, S.B. (*Indiana Univ.*) 1942, M.D. (*ibid.*) 1944

William Elliot Reynolds, S.B. (*Coll. of Puget Sound*) 1940, M.D. (*Univ. of Chicago*) 1943

Tom French Whayne, A.B. (*Univ. of Kentucky*) 1926, M.D. (*Washington Univ.*) 1931

Homer Chapin Wick, Jr., M.D. (*Johns Hopkins Univ.*) 1945

MASTER OF PUBLIC HEALTH

Harry James Alvis, S.B. (*Univ. of Illinois*) 1929, M.D. (*Univ. of Iowa*) 1933

Mary Carr Baker, A.B. (*Radcliffe Coll.*) 1930

Benjamin Donald Blood, D.V.M. (*Colorado A. & M. Coll.*) 1939

Carlos Collazos, M.D. (*San Marcos Univ.*) 1942

Tagumpay Reyes Esguerra, M.D. (*Univ. of Santa Tomas*) 1941

MASTER OF PUBLIC HEALTH (*continued*)

- Clemente Shapit Gatmaitan, M.D. (*Univ. of Philippines*) 1930, M. P. H. (*ibid.*) 1946
- R. Mildred Hall, S.B. (*Columbia Univ.*) 1945
- Cozette Hapney, S.B. (*Colorado State Coll.*) 1945
- Mervyn Gilbert Hardinge, S.B. (*Pacific Union Coll.*) 1940, M.D. (*Coll. of Medical Evangelists*) 1942
- John Tate Herron, A.B. (*Univ. of Oklahoma*) 1932, M.D. (*Univ. of Arkansas*) 1936
- Martin Patterson Hines, D.V.M. (*Ohio State Univ.*) 1946
- Thomas Robin Hood, A.B. (*Univ. of Kansas*) 1935, M.D. (*ibid.*) 1939
- Daniel Joseph Hurley, S.B. (*Creighton Univ.*) 1924, M.D. (*ibid.*) 1926
- Hyman Israel, S.B. (*Western Reserve Univ.*) 1942, D.D.S. (*ibid.*) 1943
- Shintaro Kotani, M.D. (*Tokyo Univ.*) 1936
- George Edward Leone, S.B. (*Univ. of Buffalo*) 1929, M.D. (*ibid.*) 1929
- Jan Lieben, M.B., Ch.B. (*Univ. of Liverpool*) 1943
- William Francis Lyons, D.V.M. (*Ohio State Univ.*) 1925, M.D. (*ibid.*) 1932
- Edwin Marasinghe, L.M.S. (*Ceylon Medical Coll.*) 1936
- Mohamed Bagher Mashayekhi, M.D. (*Tehran Univ.*) 1939
- Radha Govind Panigrahi, M.B., B.S. (*Andhra Medical Coll.*) 1937
- Clifford Atherton Pease, Jr., S.B. (*Univ. of Vermont*) 1943, M.D. (*ibid.*) 1945
- Carlos Alfonso Quirós, M.D. (*San Marcos Univ.*) 1942
- Robert Gerald Rice, A.B. (*Acadia Univ.*) 1935, S.B. (*ibid.*) 1936, M.D., C.M. (*McGill Univ.*) 1940
- Ingalls Howe Simmons, A.B. (*Colgate Univ.*) 1940, M.D. (*Tufts Medical School*) 1943
- George Arthur Spendlove, A.B. (*Univ. of Utah*) 1940, A.M. (*ibid.*) 1941, M.D. (*ibid.*) 1945
- Mary Susich, S.B. (*Univ. of Minnesota*) 1940
- Diosdado M. Tech, M.D. (*Univ. of Philippines*) 1944
- Ann Mathew Thomson, S.B. (*Columbia Univ.*) 1942
- Joseph Nagbe Togba, A.B. (*Friends Univ.*) 1940, M.D. (*Moharry Medical Coll.*) 1944

MASTER OF SCIENCE IN HYGIENE

(in the field of Public Health Bacteriology)

- Frank Peter Pauls, A.B. (*Univ. of California*) 1937

SCHEDULE OF COURSES OFFERED
IN 1949-50

Fall Term -- First Period September 26 - November 19, 1949

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 MATERNAL & CHILD HEALTH 1 a,b (SPECIAL)	NUTRITION 1 a	PUBLIC HEALTH PRACTICE 1 a(*) (COMMUNITY ORGANIZATION)	NUTRITION 1 a	MATERNAL & CHILD HEALTH 1 a,b (SPECIAL)	NUTRITION 1 a
10 PUBLIC HEALTH 1 a(*) (ECOLOGY)	P. H. BACTERI- OLOGY 1 a,b	PUBLIC HEALTH 1 a(*) (ECOLOGY)	SANITARY ENGINEERING 1 a(**)	PUBLIC HEALTH PRACTICE 1 a(*) (COMMUNITY ORGANIZATION)	
11	SANITARY ENGINEERING 1 a(**)		PHYSIOLOGY 1 a,b		
12					
1					

(*) REQUIRED OF ALL

DEGREE CANDIDATES

(**) REQUIRED OF ALL

M.P.H. CANDIDATES

2 BIOSTATISTICS 1 a,b(*) (LECTURE AND LABORATORY)	INDUSTRIAL HYGIENE 2 a (LABORATORY)	BIOSTATISTICS 1 a,b(*) (LECTURE AND LABORATORY)	INDUSTRIAL HYGIENE 2 a (LABORATORY)	PUBLIC HEALTH PRACTICE 11 a (TBC)	EPIDEMIOLOGY 15 a,b,c,d (SEMINAR)
3					
4					
5					

NUTRITION
4 a
(JOUR. CLUB)

Fall Term -- Second Period November 21, 1949 - January 28, 1950

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

9	NUTRITION 2 b		INDUSTRIAL HYGIENE & b (ORGANIZ'N)	MATERIAL & CHILD HEALTH 2 b (GENERAL)		INDUSTRIAL HYGIENE & b (ORGANIZ'N)		NUTRITION 2 b		PUBLIC HEALTH PRACTICE 10 b (HISTORY)		
1 0	MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 1 a, b		MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 1 a, b		MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 11 b	
1 1	MATERIAL & CHILD HEALTH 2 b (GENERAL)		EPIDEMIOLOGY 1 b (*)		PUBLIC HEALTH PRACTICE 2 b (**)		PHYSIOL'Y 1 a, b		MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 11 b	
1 2	MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 1 a, b		PUBLIC HEALTH PRACTICE 2 b (**)		PHYSIOL'Y 1 a, b		MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 11 b	
1	MATERIAL & CHILD HEALTH 2 b (GENERAL)		EPIDEMIOLOGY 1 b (*)		PUBLIC HEALTH PRACTICE 2 b (**)		PHYSIOL'Y 1 a, b		MATERIAL & CHILD HEALTH 1 a, b (SPECIAL)		P. H. BACTERI- OLOGY 11 b	

(*) REQUIRED OF ALL
DEGREE CANDIDATES
(**) REQUIRED OF ALL
M. P. H. CANDIDATES

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	112
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Spring Term -- Fourth Period April 10 - June 3, 1950

Monday

9	MATERNAL & CHILD HEALTH (ADMIN.) 3 c,d	P.H.P. 12 d (VENEREAL DISEASES)
10		
11	P.H.P. 14 d (HOSPITAL ADMIN.)	
12		
1		

Tuesday

PUBLIC HEALTH PRACTICE (P.H. NURSING) 16 c,d		
MATERN. & CHILD HEALTH 8 d (NUTR.)	P.H.P. 12 d (V.D.)	INDUS. HYG. 6 d (INDUS. MEDIC.)
PHYSIOLOGY 2 d		

Wednesday

BIO-STAT. 2 c,d (LEC. & LAB.)	P.H. 5 c,d (MED. & CARE)	M. & NUTR. CH.H. 3 d
	TROPICAL P.H. 3 d (CONFER.)	P.H.P. 14 d (HOSP. ADMIN.)

Thursday

MAT. & CH.H. 8 d (NUTR.)	P.H.P. 12 d (V.D.)	
		INDUS. HYG. 6 d (INDUS. MEDIC.)
P.H.P. 18 d (SOCIAL WORK)		PHYSIOL 2 d

Friday

BIOST. 2 c,d (LEC. AND LAB.)	MAT. & CH.H. 3 c,d (ADMIN.)	P.H.P. 5 c,d (MED. CARE)
	EPIDEMIOLOGY 9 d (MILITARY PREVENTIVE MED.)	

Saturday

EPIDEMIOLOGY 7 d (CLINICS)

1:30

2	MATERNAL & CHILD H. 6 d (PEDIATR.)	BIOSTATIST. 5 d (ADVANCED)
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INDUS. HYG. 2 d (LAB.)	TROP. P.H. 2 c,d (MENTAL HEALTH)	P.H.P. 9 c,d
		NUTRIT. 4 d (J.CL.)

INDUS. HYG. 6 d (INDUS. MEDIC.)	P.H. BACTER. 4 d & 11 d (IMMUN.)	BIOST. 4 d & M.C.H. 4 d
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INDUS. HYG. 2 c,d (LAB.)	TROP. P.H. 2 c,d (PROB.)	P.H.P. 3 c,d
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BIOST. 4 d M.C.H. 4 d	P.H.P. 13 c,d (P.H. EDUC*N)	EPIDY 15 a,b,c,d (SEMIN)
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KEY TO AERIAL VIEW

I School of Public Health, 55 Shattuck Street

Administration, Departments of Biostatistics, Industrial
Hygiene, Maternal and Child Health, Physiology and
Public Health Practice

A Administration Building, Medical School

First Floor, Student Health Office

Second Floor, Library

B, C, D, E Laboratories and Classrooms, Medical School

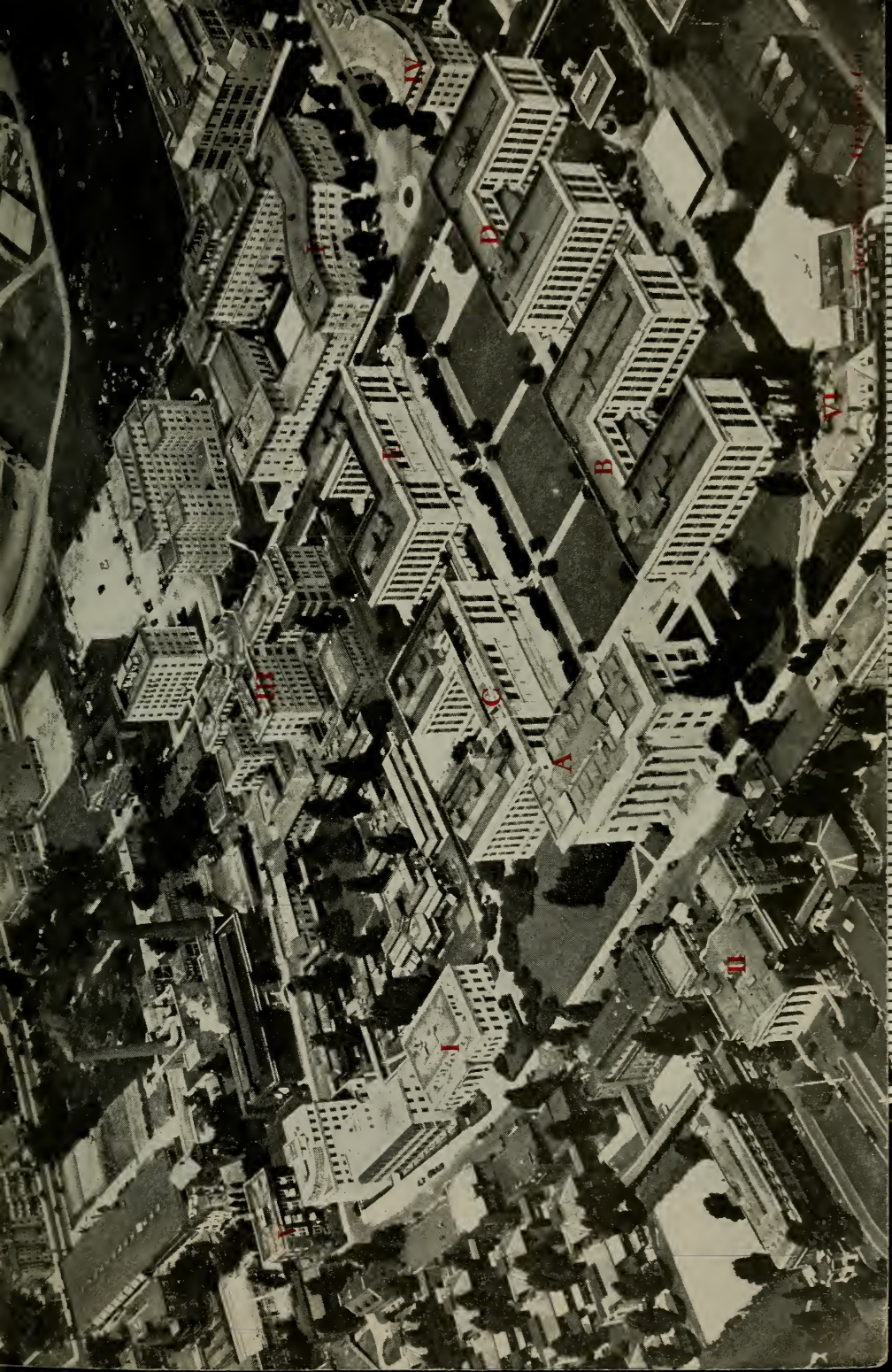
F Vanderbilt Hall

II Peter Bent Brigham Hospital

III and V Children's Hospital

IV Lying-in Hospital

VI School of Public Health, Huntington Building, 695 Hunting-
ton Avenue, Department of Epidemiology, Nutrition
and Public Health Bacteriology





HUNTINGTON BUILDING

